JANUARY, 1958

Industrial FINISHING

Published Monthly by PRACTICAL PUBLICATIONS, Inc., 1142 North Meridian Street, Indianapolis 4, Indiana

Quality Control assures ...CUSTOMER SATISFACTION

That's why we at LILLY place so much emphasis on QUALITY CONTROL in our specialized field which is the formulation . . . development . . . and production of

INDUSTRIAL PRODUCT FINISHES

And, that's why so many manufacturers look to LILLY—year after year—as a dependable source for high quality coatings in the manufacture of their products.

Why not let a LILLY representative tell you what LILLY quality control can mean to YOU in your own finishing department.

LILLY VARNISH COMPANY • Indianapolis, Indiana

AFFILIATED PLANTS / LILLY VARNISH OF MASSACHUSETTS, GARDNER, MASS.
THE LILLY COMPANY, HIGH POINT, N. CAROLINA
PRODUCTOS AUROLIN, S. A., MEXICO CITY

Now! **Save up to 50%**
in wrinkle material costs!

NEW IC* ELECTROSTATIC
Rincontrol*
ENAMELS
in Pastels and Dark Colors

Interchemical brings you substantial economy in textured finishes with its new *electrostatic* wrinkle finish! Savings soar because of greatly reduced material consumption. One major manufacturer reports savings in material costs of up to 50% because of lower rejects and less paint waste.

New IC Electrostatic Rincontrol is available in *pastels* as well as dark colors and gives you a wide choice of textures. In addition, it provides the long-famous features of IC Wrinkles — excellent uniformity, and high resistance to abrasion, perspiration, and impact.

Contact your IC Finishes Specialist about production-tested IC Electrostatic Rincontrol, or write for complete information.

Interchemical
CORPORATION
Finishes Division

Headquarters Office: 224 McWhorter St., Newark 5, N. J. Fa[illegible], Ill. • Cincinnati, Ohio • Elizabeth, N. J. • Los Angeles, Calif. • Newark, N. J. • Mexico City, Mex. • In Canada this product is made by Aulcraft Paints Limit[illegible], Ontario, and sold under its trademark. *IC and Rincontrol are trademarks of Interchemical Corporation

Armorhide—colored, textured, and tough

New metal coating looks like leather and is ten times more abrasive resistant.

Basically a textured plastic finish applied to metal and resembling leather, Armorhide is characterized by very high abrasion and chemical resistance. Similar to laminated Vinylite, Armorhide does not require expensive solvents and is sprayed on metal at a minimum of 60% solids at the gun: This means that a film of 5 mils can be applied with a *single pass* from a spray gun. And in one application ten to fifteen mil thicknesses may be applied.

Armorhide is free from wet sagging on a vertical surface. Unlike ordinary alkyd materials Armorhide contains no vegetable oil and no oxidation or after-hardening takes place.

Thus Armorhide is a new and entirely different kind of finish with physical and chemical properties unlike any other finish now on the market. Write today for free booklet and sample panel.

JOHN L. ARMITAGE ARMORESIN & CO.

Synthetic Enamels, Paints, Varnishes, Lacquers

245 THOMAS STREET · · · NEWARK 5, NEW JERSEY

STEELCASE INC

World's newest metal office furniture plant features Guardsman finishes.*

This new Steelcase Plant in Grand Rapids, Michigan is the newest of its kind in the world. Its quarter-mile long floorplan combines the best features of high volume efficiency and individualized quality control. We were pleased to have Guardsman paints used for the interior decoration of the new building, just as our specialized Product Finishes are used to enhance the sales appeal of Steelcase equipment.

GRAND RAPIDS VARNISH CORPORATION

Grand Rapids, Michigan

Makers of the famous ®Guardsman *Finish and* ®Guardsman *Cleaning Polish*

*THE BETTER THE FINISH THE BETTER THE BUY

January, 1958
Vol. XXXIV, No. 3

BPA

A monthly magazine for company executives, production superintendents, process engineers chemists, purchasing agents, paint shop and finishing department foremen of industrial plants where product surface cleaning and painting are major operations in the manufacture of parts and products of all kinds.

FINISHING

Contents

Random Comment on the Industrial Scene 4
Diversified Furniture Finished on a Conveyor 9
Reader Service Department 17
Finishing Chrysler Airtemp Cooling and Heating Units 20
Surface Treating and Protectively Coating Aluminum Windows 28
How to Keep Painting and Finishing Safe from Fire 34
Industrial Baking Enamels (Part I) 52
Painting Big Airplanes 60
Editorials 68
Letters from Readers 72
Questions & Answers 84
Decorative Painting in A Custom Shop 96
Supplies; Materials; Equipment 100
What Manufacturers Offer 117
Classified Advertising Department 129
Index to Advertisers 132

Exam. at Binks Spray Painting School 25
M. T. Schimmel; Logo, Inc. 25
T. V. DuBois Dies 32
Claremont Waste Changes Name 42
Ahrens Named Paasche Sales Mgr. 42
Neilson Chemical Co. Moves 42
G. B. Work Died in Fla. 43
Pyroxylin Prods. Appointa Lowry 45
E. J. Masterson; Body Bros. 49
Carolina Paint & Varnish Expands 64
New Officers at DuBois 65
Universal Paint Names E. J. O'Brien 81
J. E. Lowe; DuPont Finishes Divn. 86
LaGala Sales Rep. for Landau & Co. 91
Binks Holds Award Dinner 91
Shell Chemical Opens Texas Facility 95
Walberg Heads Electrostatic Paint 99
Export Rep. for Spee-Flo Co. 99
Schimmel in Calif.; Conforming Mtrx. 112
Nordson Eastern Sales and Service Outlet 128
Universal Paint Expands Laboratory 129
Rhoades, V.P. of Marketing for United Wallpaper 129
DeVilbiss Moves Personnel 129

Accepted as Controlled Circulation Publication at Indianapolis, Indiana

Published
the 18th of each month by

PRACTICAL PUBLICATIONS
Incorporated
1142 N. Meridian St.
Indianapolis 4, Ind.
Telephone MElrose 5-6771

President ..... W. H. Rohr
Vice-President ..... E. A. Dosch
Sec.-Treas. ..... R. E. Suits

★

Eastern Representative
C. A. Larson
254 W. 31st. St.
New York 1, N. Y.
Phone: Longacre 4-4285
4-4286

West Coast Representative
SIMPSON-REILLY LTD.
Halliburton Building
Los Angeles 17, Calif.
Telephone: Dunkirk 8-1179
814 Central Tower
San Francisco 3, Calif.
Telephone: Douglas 2-4994

★

Subscription Rates Per Year
U. S. and Possessions $3.00
Canada $5.00
Foreign $8.00

34 THIRTY-FOURTH YEAR OF PUBLICATION

Random Comment

Plastic Film "Flexible Glass." A new weatherable type "Mylar" polyester film, which may make possible the construction of greenhouses at about one-fourth the cost of conventional glass types, has been announced by the Du Pont Co. The new type "Mylar" promises to increase the versatility of plastic film for a number of outdoor uses.

Weatherable "Mylar," the result of an intensive research effort, will withstand direct exposure to sunlight for extended periods. Du Pont's Chestnut Run Laboratory estimates an outdoor life for this film (in 5-mil thickness) of about five years on the basis of accelerated tests and on Florida exposure.

* * *

Silicone-Aluminum Finish. In the flat plains of west Texas, Cosden Petroleum's huge refinery is more than a landmark: it's a great scenic highspot.

Keenly aware of the resulting public relations value, Cosden makes the sight even more impressive by finishing the entire refinery in bright silver and gold, with gleaming red, green and black trim.

Cost of maintaining the attractive appearance used to be heavy, particularly on stacks, furnaces, crackers and similar high temperature units. No conventional finish could withstand the 300° to 900° F. surface temperatures; several expensive repaint jobs were required every season.

In the spring of 1953, Cosden tried a silicone-aluminum finish on their sky-scraping catalytic cracker. Formulated with Dow Corning Silicones by a Texas paint company, the coating kept the cracker looking like new for three years. What's more, the silicone finish paid for itself several times over in maintenance savings alone. As a result, Cosden specifies silicone finishes for all equipment in high temperature service.

* * *

Stripping R.R. Cars Fast. A new, specially designed automatic airless blasting unit has turned the tide of railroad car cleaning costs at the Samuel Rea Shops of the Pennsylva-Railroad in Hollidaysburg, Pa. Where 13½ man hours were previously required for cleaning typical 42-ft. hopper cars at the Pennsylvania's gigantic reconditioning center, two man hours now take care of the job—a reduction of 85% in cleaning man hours.

Like a high speed production line, boxcars, gondolas and flatcars flow through a battery of three reconditioning runways, where they are dismantled, repaired, assembled, cleaned, and painted, then returned to service.

* * *

Automatic Machines, which require no human supervision and operate by orders received from punched cards or tape fed into them, are finding increased use in industry. One difficulty, however, is the many different

IT'S NEW! IT'S DOLAN'S!

Instant Stripper

FOR METAL OR WOOD FINISHES

- A non-flammable, non-toxic stripper which removes almost instantly, most finishes—enamels, either lacquer or synthetics (baked or air dry), paints, varnishes, hammered, wrinkled or special finishes for metal or wood.
- May be applied by dip, flow-coat, brush or spray.
- Readily adaptable to production line cycle, followed by refinishing.

Additional highest quality metal finishes . . . .

No. 50-2318 SYNTHETIC PAINT PRIMER . . .
A red oxide primer.

No. 50-2803 WHITE LACQUER PRIMER SURFACER . . .
A primer and surfacer.

No. 472-A OPTICAL BLACK LACQUER ENAMEL . . .
Non-reflecting; excellent adhesion.

A clear coating for plated parts . . .

No. 885 WATER DIP CLEAR . . . Prevents oxidation, protects against corrosion.

"From the Start Consider the Finish"

V. J. DOLAN & COMPANY, Inc.

Industrial Finishes of "UNQUESTIONABLE QUALITY"

1830 N. Laramie Avenue Chicago 39, Illinois

BErkshire 7-0100

kinds of tapes and cards in use. Some observers feel that soon there will be as many types of media as machines, resulting in confusion and lost time and money. It is suggested that electrical input signals be made uniform as they come from a tape reader. Under this concept all machines would be wired to a central control room, making it possible to hook a machine tool into any extension and have it obtain commands through the wire in standardized form. The machine would handle the commands in its own way.

* * *

Fade-Proof Finishes. Light absorbers for use in paints, lacquers, dyes, plastics, adhesives, polishes, synthetic fibers, etc., are announced by Dow Chemical Co. These absorbers are designed for use in products to make them withstand the fading, degradation and other damaging effects of sunlight.

A new booklet, "Dow Light Absorbers" describes the purpose and use of these light absorbers in detail. It is available from Technical Service & Development, The Dow Chemical Co., Midland, Mich.

* * *

Flame-Resistant Fabric. A new flame-resistant, vinyl-coated fabric for draperies to darken window areas in schoolrooms and auditoriums, primarily for audio-visual work, has been developed by the Du Pont Co.'s Fabrics Division. The opaque drapery is color-patterned and textured on the inner side. Neutral beige faces the window. Opacity is supplied by an intermediate coating of black vinyl.

* * *

Waterproof Glue. A new boon to do-it-yourself woodworking craftsmen, an absolutely waterproof adhesive, is being placed on the market by United States Plywood Corp.

So lasting is the bond effected by this glue and so invulnerable are its general adhesive qualities, that all government specifications for marine and aircraft work are met. It is known as Weldwood Waterproof Resorcinol Glue.

Weldwood Waterproof Resorcinol Glue may be safely used for a permanent bond on boats, sporting goods, outdoor furniture, etc.

* * *

Do it Yourself Building. All-Steel industrial buildings as low as 70¢ per sq. ft. (F.O.B. factory); "do-it-yourself" construction; adjustable columns and girts for easy plumb and squaring—these innovations are offered in a new all-steel pole-type building line, called Stran-Master, announced by Stran-Steel Corp., a unit of National Steel Corp.

Besides offering industry fire-safe warehousing at prices comparable to wood pole-type buildings, the Stran-Master provides a new low price structural package which can be used for light manufacturing, automotive storage, executive parking. It comes in a wide range of sizes, from widths of 12-ft. to 120-ft. and in length to any multiple of 16-ft. Windows and doors can be placed anywhere. It can be ordered with any or all walls open.

* * *

Coating Stops Vapor Penetration. The damaging effects of moisture vapor penetration through walls, insulation and other surfaces are claimed to be more easily and effectively controlled by a new, highly efficient vapor barrier coating designed for application in liquid form. When dry, a pigmented film of .0012-in. thickness is said to provide resistance to water vapor transmission of .25 perms. Performance data, application techniques and other data are included in Bulletin VB-657. The Upson Chemical Corp., Lockport, N. Y.

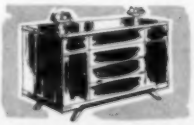
Above All...

PERFEX SATIN FINISHES

have long been recognized and acknowledged as the BEST synthetic varnishes made . . . . definitely "above all" other flats. Through the years, progressive improvements have been made in PERFEX so that today we offer a modern flat that is the ultimate, the Zenith in the flat finishes . . . . one without a peer or even an equal.

PERFEX was the original "flat" to be made by a new and different process, without the use of stearates or other flattening agents. NOW recent improvements have cut the dust free time, increased print resistance, reduced drying time, increased body and build, improved clarity and color . . . . all of which combines to produce a wonderful rubbed effect appearance and a pleasant waxed effect feel.

PERFEX SATINS are available in a full range of sheens to produce the exact rubbed effect and waxed feel you wish.



If you manufacture furniture and are interested in securing an excellent rubbed finish effect, we invite your inquiry.

PERFECTION

PAINT AND COLOR COMPANY

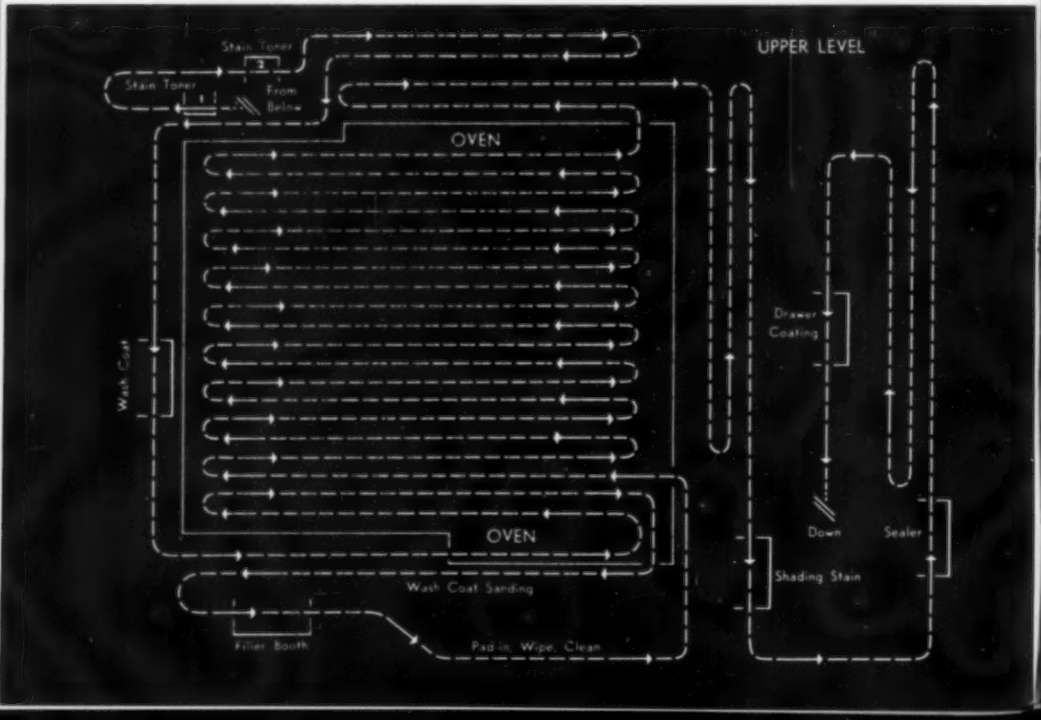
INDIANAPOLIS 2, INDIANA

Diversified Furniture Finished on a Conveyor

By Fred Abel, Finishing Foreman
Lenoir Furniture Corporation

MOST manufacturers of furniture confine their production to either dining room or bedroom furniture — or to occasinoal pieces. Our plant is somewhat unusual. We produce dining furniture including chairs, bedroom and occasional furniture in mahogany, cherry, walnut, oak and elm. All of this furniture is finished on the same conveyor.

The overhead monorial conveyor is 9000-ft. long with carriers spaced on 80-in. centers. Platforms are 27x60-in. The chain is driven through a variable speed drive and has a capacity of 280 trays an hour. The drying of individual coatings is accelerated but carefully controlled as the furniture in process moves through enclosed drying rooms or "ovens" wherein

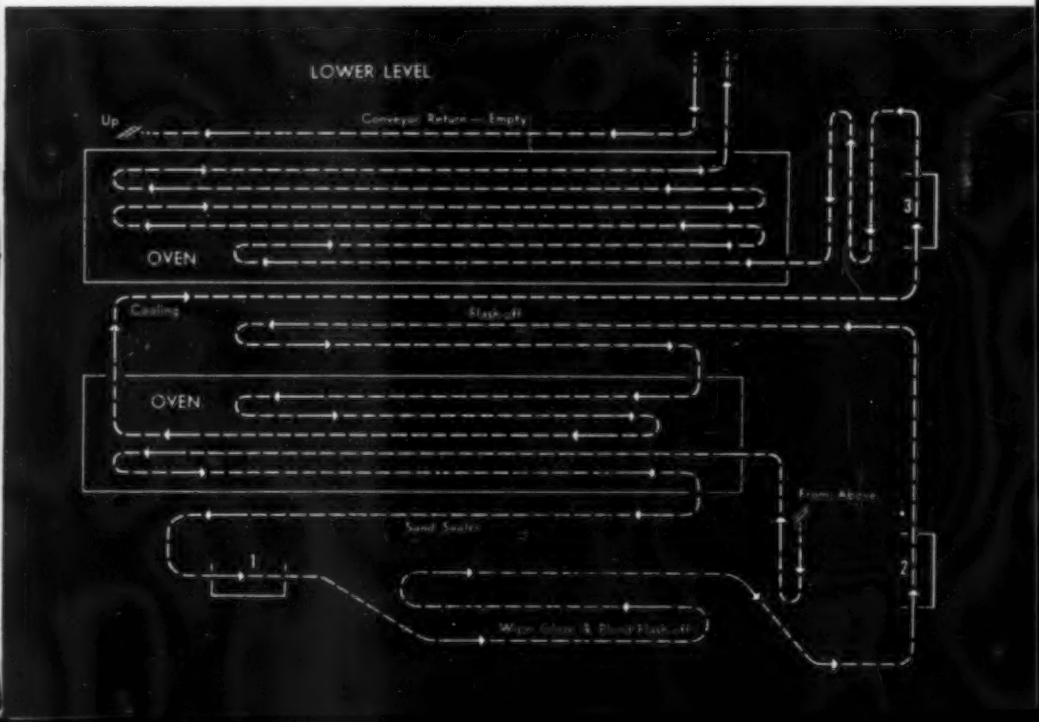


In the rubbing room there are two lines, one for cases, the other for drawers. The final polishing and inspection is far in the background.

humidifiers operate automatically to keep the heated air at a prescribed uniform humidity.

All spray booths are of the water wash type. High speed production finishing is possible only with modern equipment and facilities. On the other hand, quality of finish is possible only through the use of skillful and controlled processing, the use of quality material and the allowance of adequate drying time after each operation and before the surfaces are rubbed.

[Continued on page 10]



[*Continued from page 9*]

Cordovan Mahogany Finish; Glue Size; Sand; Stain

First I shall describe the work that is involved in putting on our Cordovan mahogany finish. All mahogany plywood is glue-sized, using one part of hide glue to eight parts of water and a wetting agent. This glue size is sprayed on and allowed to air dry overnight. The first sanding is with No. 3/0 sandpaper; then the surfaces are polish sanded with No. 5/0 sandpaper.

After assembly all surfaces are again sanded with No. 6/0 sandpaper, and just before the pieces enter the finishing room they are carefully inspected and a bit of touch-up sanding is done with No. 6/0 sandpaper.

In the first spray booth a dark colored tracing stain is sprayed around the edges of tops, on posts and around edges of drawers. The atomizing pressure is 15-lbs. and fluid pressure is 8-lbs. After air drying for eight minutes an NGR stain is sprayed over the entire surface, using an atomizing pressure of 20-lbs. and a fluid pressure of 8-lbs. The stain coats are dried for 30 minutes

Wash Coat; Dry; Sand; Fill; Pad in; Wipe; Dry; Sealer

Next a shellac-base wash coat is sprayed on at an atomizing pressure of 30-lbs. and fluid pressure of 12-lbs. After a flash-off (air dry) of five minutes the wash coat is force-dried for 45 minutes at 110° F., with 35% relative humidity. During the 10-minute cooling period, the wash-coated surface is scuff sanded with No. 8/0 sandpaper and then blown clean with a compressed air gun.

Spraying first toner in W. W. spray booth.

In the next spray booth an oil filler is sprayed at an atomizing pressure of 30-lbs. and fluid pressure of 20-lbs. After flashing (air drying briefly) the filler is padded in with a power-driven rotary machine which is fitted with rubber blades. The filled surfaces are then hand wiped to make them thoroughly clean. The pieces pass through an inspection station before they enter the drying oven for 1¾ hours where the filler is dried at 110° F. and 35% relative humidity. A cooling period of 30 minutes follows.

A lacquer sealer of 17% solids is sprayed on at an atomizing pressure of 30-lbs. and fluid pressure of

With all America becoming increasingly color conscious, the trend towards multi-color finishes is growing by leaps and bounds.

Smart painters and interior decorators the country over are using multicolor finishes for basements, rumpus rooms, hallways, hospitals, restaurants, churches and stores.

Manufacturers of displays, store fixtures and a wide variety of furnishings and equipment, find their products sell on sight as a result of these distinctive new finishes.

You would be wise to investigate **BARRETT BARCOTONE MULTICOLOR FINISHES** if you want the BEST POSSIBLE RESULTS. BARCOTONE is made in 24 of the MOST BEAUTIFUL COLOR COMBINATIONS imaginable. Unlike many other multicolor finishes BARCOTONE IS EXTREMELY DURABLE—CLEANS EASILY with just a damp cloth.

FOR OVER 86 YEARS, BARRETT HAS BEEN DEVELOPING AND MANUFACTURING SUPERIOR FINISHING MATERIALS OF EVERY TYPE.

FOR THAT NEXT MULTICOLOR JOB, SPECIFY BARCOTONE — THERE'S NONE BETTER ON THE MARKET.

A card or letter will bring you complete information on BARRETT BARCOTONE MULTICOLOR FINISHES.

BARRETT VARNISH is justly proud of their reputation for

FAST SERVICE

second to none in the industry.

Barrett Varnish Company

1532 S. 50th COURT CICERO 50, ILLINOIS

15-lbs. After a flash-off period of 15 minutes the sealer is force dried for 20 minutes at 100° F. A cooling period of 15 minutes follows during which time the sealer is lightly sanded with No. 8/0 sandpaper.

Three Coats of Hot Lacquer; Accelerated Drying

From this point on our finishing system differs somewhat from those used in many other furniture plants. We apply three coats of 21% solids gloss lacquer which passes through a hot water type of paint heater thermostatically controlled at 150° F. Hot water circulates around the material hose from the heater to the spray gun, so no appreciable heat loss occurs. The atomizing pressure is 24-lbs. and the fluid pressure is 12-lbs. After each coat a 30-minute flash-off period is allowed and the first and second coats are force dried for 20 minutes at 100° F. The third and final coat of lacquer is force-dried for 45 minutes at 100° F.

One heater heats the finishing material for two spray booths.

The material hose is encased in a larger hose through which hot water circulates between the heat exchanger, mounted on the wall, and the spray gun.

All pieces are then removed from the conveyor and placed in a large, ventilated overnight storage room where fans constantly circulate the heated air. This room is thermostatically controlled to maintain a temperature of 135° F., with 35% relative humidity. This facility enables us to give all furniture a drying period of from 14 to 22 hours.

Machine Rubbing; Polishing; Final Clean Up; Safety

We have four rubbing stations through which all furniture passes. Each station has air-driven portable rubbing machines. The first rubbing is done with No. 360 wet-

5-Gallon Can
at Drum Price

Order a 5-gal. can at drum price and Convince yourself.

Satin Finish Wooling Lacquers

These are ideal lacquers for use where a satin sheen finish with a smooth, silky feel is desired, without requiring a costly rubbing operation.

Their intrinsic and economical values are fully appreciated when used in place of the regular semi-flat lacquers, to produce the much desired satin, velvety finish.

Mac's Satin Finish Wooling Lacquers, if steel wooled only, or if steel wooled with wax using 3/0 or 4/0 steel wool, will produce a very smooth, silky, and scratchless finish that feels more silky than the regular satin finish lacquers. The steel wooling process is inexpensive and easily done.

Mac's Satin Finish Wooling Lacquers are made in different sheens which may be a flat comparable to a 20 sheen or as bright as a 75 sheen lacquer. They may also be used without steel wooling and will produce a fuller and more homogeneous finish than the regular semi-flat lacquers.

Mac's Satin Finish Wooling Lacquers are available in water white light resistant, for use on white or pastel finishes, or in the regular lacquers for the darker shades such as mahogany, walnut, etc. The water white satin finish wooling lacquers are universal lacquers and may be used on both white and medium to dark finishes wherever space for storage is important.

When ordering, advise sheen desired and whether you want water white or regular satin sheen wooling lacquer.

"Eighty-two Years of Service"

The Lawrence-McFadden Co.

Headquarters for Fine Finishes Since 1875

7430 STATE ROAD PHILADELPHIA 36, PA.

or-dry sandpaper lubricated with a special rubbing oil. No naphtha or mineral spirits are used. In the next three stations, Nos. 400, 500 and 600 wet-or-dry sandpaper are used—with the same oil lubricant.

All surfaces of our furniture are rubbed. Shaped and molded parts are hand rubbed. Then the surfaces are cleaned with a water-soluble cleaner. In the next station a No. 5 compound is applied and the surfaces are compounded with a dry wool disc. At the last station a silicone-base polish is applied and lightly rubbed with a power driven lambswool disc. Incidentally this polish is formulated so as to prevent fish-eyes from forming if it ever becomes necessary or desirable to refinish the furniture.

Blond Mahogany, Walnut, Limed Oak; Toners Used

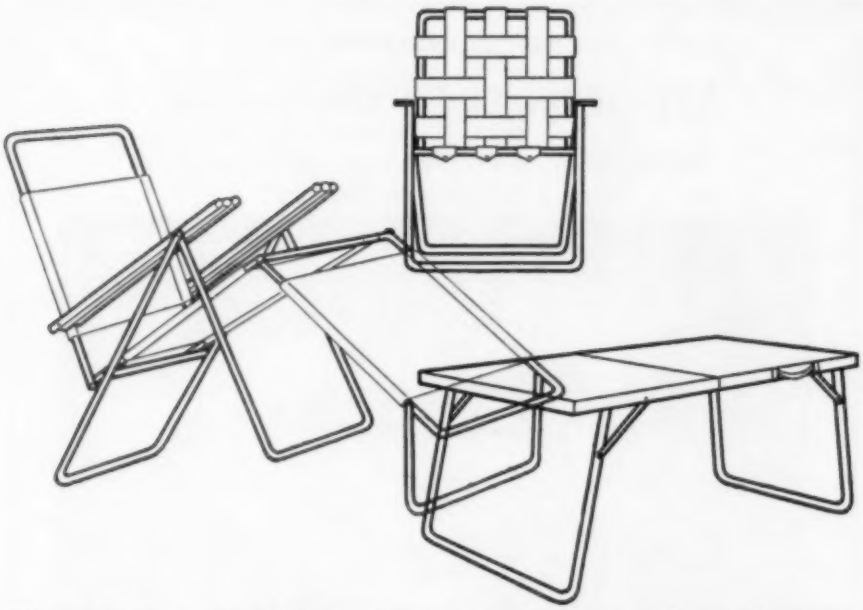
For blond finishes in mahogany, walnut and for limed oak, our spray booth No. 1 is used for the first toner; and in the next booth the second toner is sprayed on. These modern toners produce the blond color but they do not obscure the grain figure in the wood. The old fashioned toner, which was generally applied in one spray coat, produced what many people referred to as a painted appearance, whereas these new toners impart the desired color without hiding even the finer grain lines in the natural wood figure.

Padding-in filler with rotary machine.

The toner-treated surfaces are allowed to dry for 30 minutes. A wash coat and sealer follow in the same order as described for the Cordovan mahogany finish. The only difference is in the filling operation. For instance, in these finishes the wood is semi-filled; otherwise the operations are the same.

The first coat of urea formaldehyde clear synthetic varnish (18% solids) is a "building coat." It is sprayed at an atomizing pressure of 24-lbs. and a fluid pressure of 12-lbs. The material passes through the paint heater maintained at 150° F. This clear synthetic build coat is allowed to flash-off for 30 minutes and then it is force dried for 20 minutes at 100° F.

After a cooling period of ten minutes the second coat of urea formaldehyde varnish (38% solids) is applied. This material also passes through the paint heater set at 150° F. After a flash-off period of 30 minutes the final coat is dried for 45 minutes at 100° F. These pieces of furniture also remain in the overnight storage room for further drying at 135° F. with 35% relative humidity before they go to the rubbing room. [END]



Here's a better lacquer for aluminum

Aluminum lawn furniture coated with lacquers made of Eastman Half-Second Butyrate assures lasting protection against weathering and unsightly rub-off on hands and clothing. These films are stable to ultraviolet light and do not whiten, yellow or peel.

Clear, tough, strong and durable, Half-Second Butyrate lacquers resist attack from water, detergents, cleansers, and salt spray.

Application of these lacquers is easy, quick and inexpensive. They may be applied to carefully cleaned aluminum surfaces without priming, by dipping or spraying. Properly formulated, Half-Second Butyrate lacquers deposit a film of adequate thickness with just one coat. Air-drying occurs in a matter of minutes, eliminating the need for ovens.

Highly soluble, Half-Second Butyrate lacquers can be formulated in such economical solvent systems as ethyl alcohol and toluene. The low density of Half-Second Butyrate assures good coverage per pound of film former.

If you want lasting outdoor protection for your aluminum products ask your lacquer supplier about Half-Second Butyrate lacquers ...or write us for more information.

HALF SECOND **BUTYRATE**

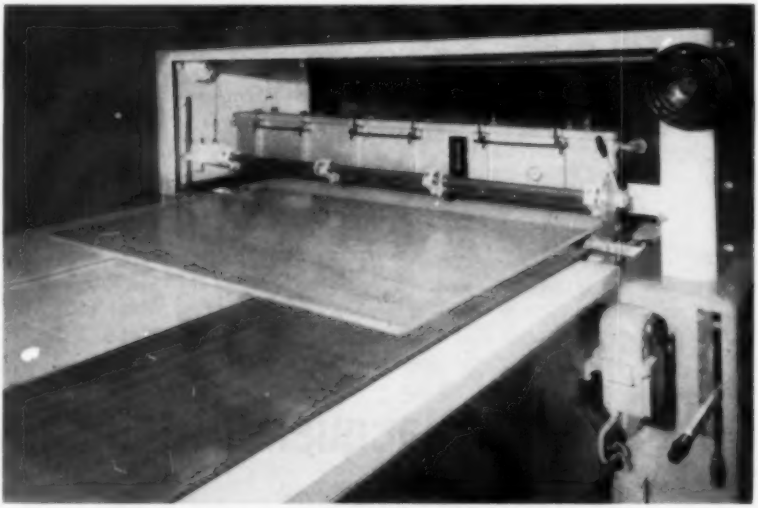
an Eastman film former

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; New York City; Framingham, Mass.; Cincinnati; Cleveland; Chicago; St. Louis; Houston. **West Coast: Wilson Meyer Co.,** San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

PRODEVCO PRESENTS THE

STEINEMANN **FLOWCOATER**

SAVES UP TO FIFTY PER CENT MATERIALS
WHILE IMPROVING QUALITY



APPLYING LACQUER AT 250 FPM

APPLICATION—Pours clear or pigmented nitro-cellulose synthetics, polyesters and paints to flat or profiled parts of wood, composition board or metal—unlimited film thickness micro-controlled.

PRODUCTION—Feeds at 130 to 400 feet per minute. Parts can be dried on racks or automatically transferred to conveyors and drying ovens.

SPECIFICATIONS—Sent on request. Machines made from 11 to 75 inches wide with one or two pouring heads.

For demonstration in High Point, N. C., or quotation, write:

PRODUCTION DEVELOPMENT COMPANY, INC.
2404 HILLSBORO STREET • RALEIGH, NORTH CAROLINA

The READER SERVICE *Department of*

Industrial FINISHING

Offers you additional information on the materials, equipment, accessories and supplies advertised in this issue. Just fill in the name of advertiser and page number of advertisement in question, on the card below; print or type your own name, your company's name and address, detach and mail. No postage required.

For further information on what manufacturers have to offer —literature, products, supplies, etc., mentioned in the editorial departments, use "Reader Service" return card in the rear section of this issue, page 116.

Industrial FINISHING

JANUARY, 1958, Issue

Reader Service Department

Without obligation, please see that we receive additional information and literature on the items featured in the advertisements of those firms written in below:

(NAME OF ADVERTISER) (PAGE NO.)

.....

.....

.....

.....

.....

.....

.....

.....

Name.....*Title*.....
(PLEASE PRINT)

Company Name.....

Street Address.....

City.....*Zone*.....

State.....

Send your inquiries to

INDUSTRIAL FINISHING Magazine for information about technical paint coating problems, methods and processes; and for sources of supply for organic finishes, equipment and supplies to be used in connection with surface preparation and conditioning, paint application, sanding, paint drying and baking, rubbing, polishing, etc.

Surfaces to be completely or partially coated for protection, decoration or for any other purpose, include components and articles made of metals, plastics, woods, and composition materials; also paper, leather, rubber and fabrics.

The services of many testing laboratories, finishing consultants and special technicians are often available.

These inquiries are promptly answered. As a result, new products, materials and sources of information are continuously being uncovered; valuable contacts are made and timely suggestions for future articles to be published are often developed.

Postage Will Be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
First Class Permit No. 1490, Indianapolis, Indiana

Industrial Finishing Magazine

1142 N. Meridian Street

Indianapolis 4, Ind.

airless* SPRAY COATING

* Spray Painting Without Air

Spray Painting With Air — Airless

This new spray painting process (without air) will minimize your over-spray problems, reduce health and fire hazards, cut maintenance and clean-up costs, save paint, time and labor as well as reduce your auxiliary painting equipment requirements.

Over and above these advantages . . . a Better Finished Product is the final result. See it at the show.

YOU'LL SEE IT AT THE SHOW!

in operation at

BOOTH 1089

1958 National Plant Maintenance & Engineering Show

International Amphitheatre, Chicago, Ill., Jan. 27 to 30.

Write for Airless Spray Painting brochure.

NORDSON CORPORATION

FORMERLY BEDE PRODUCTS CORPORATION

THE BEST IN SPRAY COATING EQUIPMENT

AMHERST, OHIO — YUKON 8-4473

In Canada: 864 Pape Ave., Toronto, Ontario.

Finishing Chrysler Airtemp Cooling and Heating Units

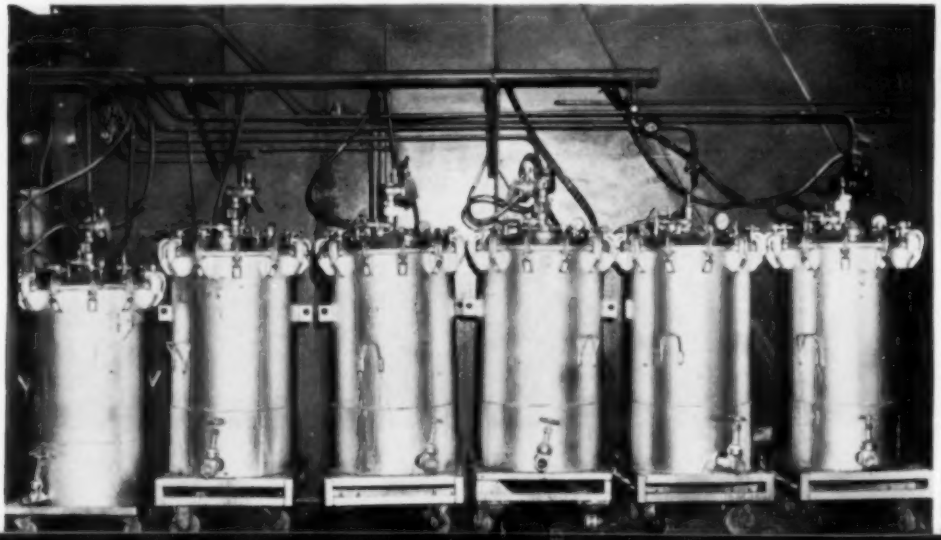
By P. C. Bardin, Associate Editor

WHAT KIND OF a system and what type of equipment will prove most efficient for finishing a wide variety of pressed metal parts? Some panels are as large as 58-in. high by 72-in. wide; others are as small as 1x16-in. Some parts are heavy; others are light in weight. Some are flat metal panels, while others have returned ends. Some of the panels have louvred openings; and sub-assemblies are quite intricate in shape. These are some of the conditions that confronted the Airtempt Division of Chrysler Corp.

The parts mentioned are used in oil and gas-fired heating units and air coolers for automobiles, individual rooms, entire homes, commercial and industrial buildings. To add to the variety, eight different colors are used.

The quality of finish must be uniformly high grade. Adhesion must be good. The surface beneath the finish must inhibit rust—just in case the finish might be deeply scratched or marred in service. Some of the cooling units are installed out of doors; some heating units are put in damp basements.

Six 60-gallon pressure tanks supply primer and top coat enamels to the spray booths through a system of piping. These tanks are located at the far end of the top coat spray booth. Paint is pumped 120-ft. to the prime coat booth.



Spraying the finish coat on formed parts for air coolers. Here the conveyor is moving from left to right. Those pressure tanks at right contain material for special finishes.

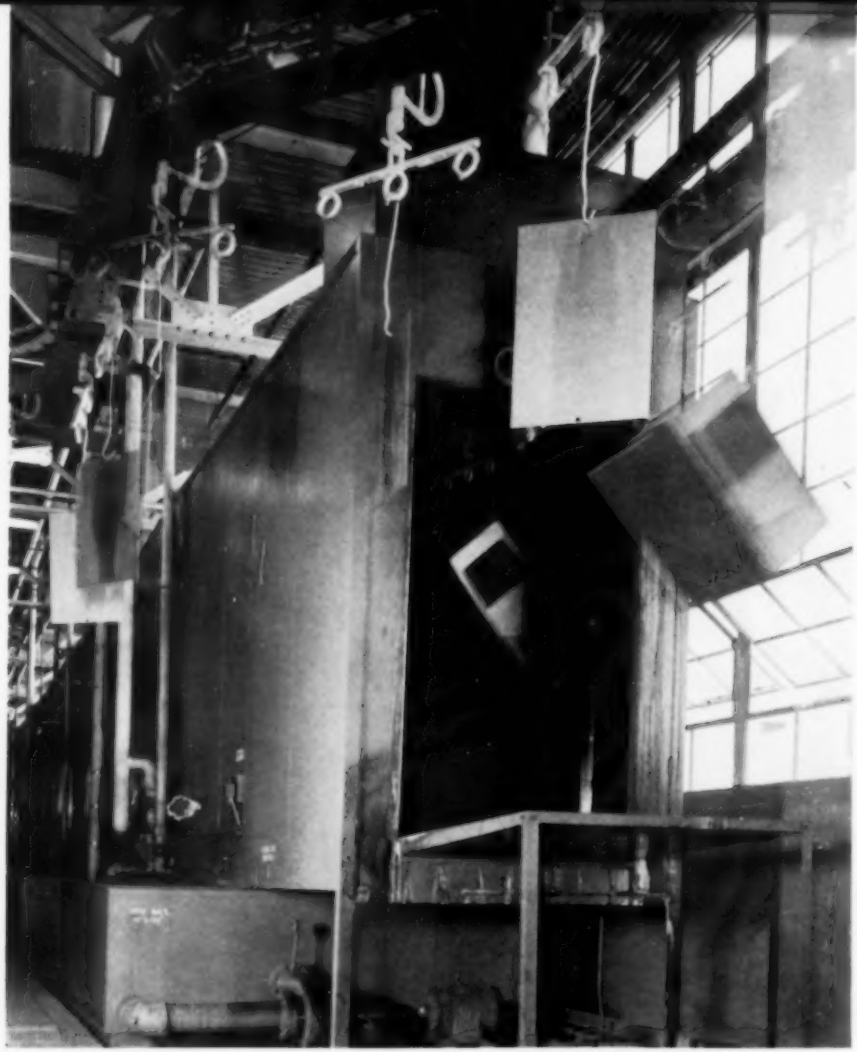
How these problems were solved can best be revealed by describing a typical finish on a heating and cooling unit.

Regardless of where the parts are to be used, all of them are hung on an overhead monorail conveyor in the fabricating department. This conveyor has hooks spaced on 32-in. centers and is driven through a variable speed drive at 25-ft. per minute. All parts pass through a 6-stage power washer and phosphatizing machine. The accompanying table lists the various solutions and rinses which are sprayed on all parts from four sides, within a tunnel, at 25-lbs. pressure.

Stage	Solution	Temp. ° F.
1	Alkali Cleaner	165
2	Hot water rinse	160
3	Hot water rinse	155
4	Phosphate solution	155
5	Cold water rinse	Room
6	Chromic acid	135

Dry-off oven for 3 minutes at 425° F.

[*Continued on page 22*]



Parts for air coolers leaving the 6-stage power washer and phosphatizing machine.

[*Continued from page 21*]

Epon Resin Base Primer; Alkyd Resin Base Enamel

The parts travel for four minutes to cool before they enter the first of two reverse position spray booths. These booths are designed to handle a wide variety of parts —large, medium and small in size. They are a combination of water curtain and down draft. Each booth is 60-ft. long and will accommodate four operators.

In the first booth all air cooler parts are given a spray coat of red Epon resin base primer. This primer is applied at a viscosity of 18 seconds at 78° F., as measured in a No. 4 Ford cup. Atomizing

Do you need better ways to strip paint?

When tough finishes resist your present stripping methods, you may need help on some of these problems:

1. How to strip oil-base paints... synthetic enamels ... alkali-resistant plastics ... resin-base paints ... japans ... wrinkle finishes ... nitrocellulose lacquers... alkyds ... phenolics ... ureas.
2. How to strip zinc chromate primers without etching aluminum.
3. How to strip paint from vertical surfaces and undersurfaces where thin-bodied strippers run off without doing their work.
4. How to strip metal parts that are too large to be soaked in tanks.
5. How to strip paint, pigment residues, phosphate coatings and rust in one operation.
6. How to strip paint from rejects, conveyor chains, racks and hooks in continuous operation.

Oakite has more than a dozen fine stripping materials for these and similar jobs.

FREE For information on problems 1, 2, 3 and 4 ask for a copy of "How to strip paint". For more on problems 5 and 6 ask for "Here's the best shortcut in the field of organic finishing". Write to Oakite Products, Inc., 20 Rector St., New York 6, N. Y.

OAKITE.

Export Division Cable Address: Oakite

Technical Service Representatives in Principal Cities of U. S. and Canada

pressure is 70-lbs. and fluid pressure is 45-lbs.

The primer is allowed to flash-off for 1½ minutes before an alkyd resin-base enamel is put on in the second spray booth. This synthetic enamel is applied at a viscosity of 22 seconds at 78° F., as measured in a No. 4 Ford cup. Atomizing pressure is 70-lbs. and fluid pressure is 40-lbs.

The top coat is allowed to flash-off (air dry) for nine minutes before the coated parts enter an indirect-fired gas-fuel convection oven where the finish is baked for 36 minutes at 285° F. The resulting dry film thickness is 1¾-mils.

Cabinet Panels for Heating Units

Cabinet panels for heating units enter the first spray booth where a coat of aluminum is sprayed on all inside surfaces. In the second booth the outside of the panels is sprayed with a gray alkyd-resin-base enamel applied at a viscosity of 42 seconds at 78° F., as measured in a No. 4 Ford cup. Atomizing pressure is 70-lbs. and fluid pressure is 45-lbs.

This coat is allowed to flash-off for 1½ minutes before a coat of gray hammer finish enamel is applied. Then the parts travel for nine minutes to flash before they enter the oven where both coats are baked for 36 minutes at 285° F. The resulting dry film thickness is 1½ mils.

Material Pressure Tanks Are Located Outside Booths

Beige, gray, gray hammer, black, aluminum and red primer are supplied to the booths from a piping system which is connected to 60-gallon pressure tanks located beyond the end of the second spray booth. The special beige and cream enamels are supplied from smaller pressure tanks which are placed inside the top coat booth. Six large tanks in a central location outside the booths contribute to better control of pressures and save valuable space in the spray booths.

C. F. Rental; Stanley Chemical

Chester F. Rental has joined The Stanley Chemical Co., East Berlin, Conn., a subsidiary of The Stanley Works, as technical service supervisor. He will report directly to Valentine B. Chamberlain, Jr., sales manager of the subsidiary.

Paint Evaluations Offered

The evaluation of paint, used for industrial application, has become a major, specialized phase of the services of Kenneth Tator Associates, 2020 Montour St., Corapolis, Penna. Over the course of the past 10 years, this firm has developed a procedure of paint evaluation which has become recognized as a standard in the industry. Today, almost every industrial maintenance man is familiar with and appreciates the benefits of this very important phase of research.

It is a known fact that paint evaluation for industry is an integral part of maintenance research. Without proper evaluation of coatings, there cannot be intelligent recommendations for their use.

Service on Abrasive Discs

Bates Products, Inc., 1129 E. 74th St., Chicago 19, Ill., specialists in producing resin-bonded abrasive sanding discs, is offering a consulting service that makes available a special corps of abrasive engineers.

The Bates abrasive engineers will be available free at all times to help solve abrasive sanding disc problems in all types of manufacturing plants. The company will also furnish free samples of its "Marvel" resin-bonded sanding discs for trial use in plants.

The special "Marvel" resin which bonds the abrasive to the disc is composed of an exclusively developed Bates formula and will not soften under heat developed by friction, or create foreign matter that fuses and clogs the disc. "Marvel" sanding discs hold their shape, lie flat on the wheel and cut fast regardless of weather.

"Final Exam" at Bink's Spray Painting School

The "final exam" at Binks Mfg. Co.'s spray painting school provides a unique way for students to use the techniques they have learned during the five-day course held at the company's plant in Chicago.

For the "exam," which takes place at the last session of the school, each member of the class spray-paints a six-color picture of a pie-bald horse's head. Six colors are used in this unusual spray painting operation. The color changes and material control required for this project effectively demonstrate the versatility of spray painting equipment.

Student's "final exam" is admired by classmates at Binks Manufacturing Company's spray painting school. The six-color illustration of a horse's head is done completely with spray painting equipment. The project gives students an opportunity to practice the skills learned during the Binks course.

Each student undertakes his project after a comprehensive "how-to" demonstration conducted by Binks' Director of Customer Research and school instructor William R. Brooks. As it turns out, the students' efforts are generally suitable for framing.

Conducted at Binks each month of the year except July and August, the spray painting course is designed to train the finishing foreman and the department superintendent in the fine arts of proper finishing. Instruction covers all phases of the spray painting field including spray guns and their construction, paint circulating systems, material handling pumps, oil and water extractors and compressors.

Classes are limited as to number so that each student has an opportunity to work with both manual and automatic equipment under individual supervision. The classes scheduled for the 1958 spring term, to be conducted at Binks' Chicago plant, will be held March 3 through 7, April 7 through 11, May 5 through 9 and June 2 through 6.

Reservation forms, and a booklet describing the course, may be obtained by writing B. J. Hedger, Binks Mfg. Co., 3116 Carroll Ave., Chicago, Ill.

M. T. Schimmel: Logo, Inc.

Milton T. Schimmel has been retained as a finishing consultant by Logo Inc. Division, Bee Chemical Co., to service its west coast accounts. The retaining of Mr. Schimmel is in line with the Logo policy of giving improved service wherever possible.

From 1956 until recently, Mr. Schimmel was general manager of Mirra-Cote Co., Inc., El Segundo, Calif. Mirra-Cote was engaged in vacuum metalizing of both plastics and metals. Mr. Schimmel studied both mechanical and electrical engineering at the Universities of Cincinnati and Toledo. He is now located at 14017 S. Wilkie Ave., Gardena, California.

Special Reports On Finishing Non-Ferrous Metals

NUMBER III—Lustrous, Corrosion-Resistant Finishing with Chemical Polishing Iridite

WHAT IS IRIDITE®?

Briefly, Iridite is the tradename for a specialized line of chromate conversion finishes. They are generally applied by dip, some by brush or spray, at or near room temperature, with automatic equipment or manual finishing facilities. During application, a chemical reaction occurs that produces a thin (.00002" max.) gel-like, complex chromate film of a non-porous nature on the surface of the metal. This film is an integral part of the metal itself, thus cannot flake, chip or peel. No special equipment, exhaust systems or specially trained personnel are required.

Chromate conversion coatings are widely accepted throughout industry as an economical means of providing corrosion protection, a good base for paint and decorative finishes for non-ferrous metals. Certain of these coatings also possess chemical polishing abilities that have luster-producing, as well as corrosion-inhibiting, effects on zinc and cadmium plate, zinc die castings and copper alloys. However, continued developments in this field have been so rapid that many manufacturers may not be completely aware of the breadth of application of this type of finish. Hence, this discussion of the many ways in which this chemical polishing characteristic can be used in final finishing or pre-plating treatments to produce a lustrous appearance with distinct display and sales appeal and appreciable savings in cost. Report I on decorative, corrosion-resistant finishes and Report II on paint base, corrosion-resistant finishes are available on request.

The degree of luster possible on a surface is a function of the degree to which the surface can be smoothed. Leveling to provide a smooth surface can be achieved by mechanical or chemical means, or a combination of these, depending upon the luster desired and the original condition of the metal. Chemical polishing effectively imparts luster otherwise difficult and costly to obtain. For this reason, it is often used to supplement or entirely replace mechanical polishing, depending upon the application and the original condition of the metal. Chemical polishing has the additional advantage of providing overall treatment of the submerged part. It reaches into even the deepest corners and recesses that are otherwise inaccessible. Certain of the Iridites are specifically designed to perform this chemical polishing operation. In addition they provide corrosion protection as do all Iridites, thus may be used either as a final finish or a pre-plating polish.

If Iridite is to be used as a final finish, in contrast to pre-plating treatment, the

chromate conversion coating generated is allowed to remain, providing good corrosion resistance. Color inherent in these Iridite films ranges from a yellow cast to yellow iridescent. These coatings may be used without further treatment where this color is acceptable and good corrosion resistance is desired. Further, these basic coatings can be tinted by dyeing. Among the dye tints available are shades of red, yellow, blue and green. If desirable, the basic coatings can also be modified by a bleach dip leaving a clear bright or blue iridescent finish. In all cases bleaching reduces corrosion resistance.

As examples of this type of final finishing, Iridites #4-73 and #4-75 (Cast-Zinc-Brite) make possible for the first time, lustrous chemical polishing of the as-cast surface of zinc die castings. Thus, in many cases, sizeable savings in finishing cost are realized by elimination of plating costs. This economical method can be used on tools, appliance parts, toy pistols, locks and many other small castings. Another example is the treatment of copper and brass parts, such as welding tips, to eliminate buffing and provide additional corrosion resistance. In many cases, handling costs are reduced appreciably by replacing piece-part handling with bulk processing. Still another example of the use of this chemical polishing and protective quality of Iridite is a simple system of zinc plate, Iridite and clear lacquer instead of more costly electroplated finishes. Typical of this type of lustrous finish are builders hardware and wire goods.

As a pre-plating treatment, in contrast to final finishes, Iridite can be used to chemically polish zinc die castings or copper prior to plating. In such cases, Iridite should be applied as an in-process step, so that the protective film is removed before the plating cycle. The savings in handling, material and labor costs are obvious. This process has made it practical to plate chrome directly over copper on steel, conserving nickel, yet producing a lustrous chrome finish. Used after stripping faulty plate in reprocessing zinc die castings, Iridite restores luster to the casting, making possible replating without blistering.

Other Iridite finishes are available to produce maximum corrosion resistance, a wide variety of decorative finishes and excellent bases for paint on all commercial forms of the more commonly used non-ferrous metals. As a final finish, appearance ranges from clear bright to olive drab and brown and many films can be bleached or dyed. As a paint base Iridite provides excellent initial and retentive paint adhesion and a self-healing property which protects bare metal if exposed by scratching. Iridites have low electrical resistance. Some can be soldered and welded. The Iridite film itself does not affect the dimensional stability of close tolerance parts.

Iridites are widely approved under both Armed Services and industrial specifications because of performance, low cost and savings of materials and equipment.

You can see then, that with the many factors to be considered, selection of the Iridite best suited to your product demands the services of a specialist. That's why Allied maintains a staff of competent Field Engineers—to help you select the Iridite to make your installation most efficient in improving the quality of your product. You'll find your Allied Field Engineer listed under "Plating Supplies" in your classified telephone book. Or, write direct and tell us your problem. Complete literature and data, as well as sample part processing, is available. Allied Research Products, Inc., 4004-06 East Monument Street, Baltimore 5, Maryland.

Surface Treating and Protectively Coating

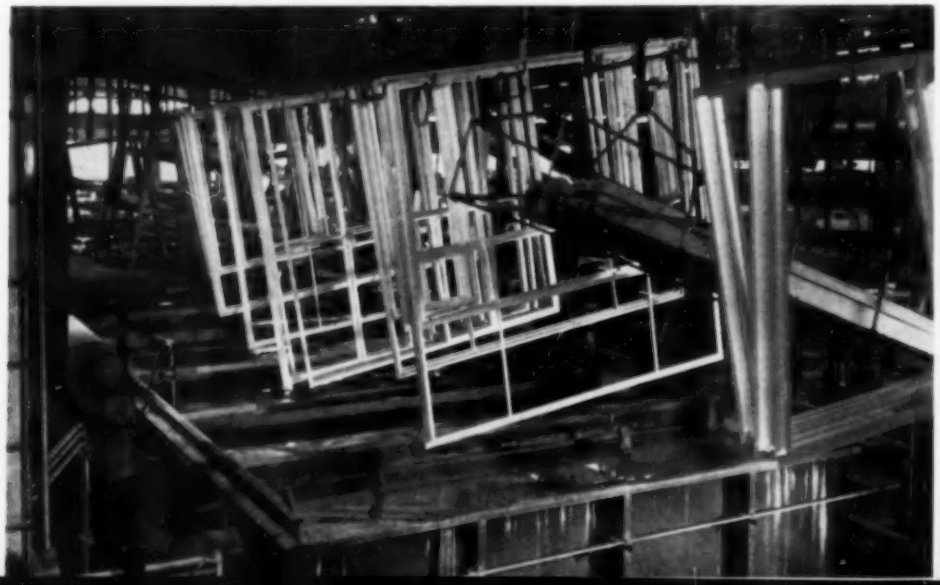
ALUMINUM WINDOWS

By R. J. ANEN, V.P., Production
Ceco Steel Products Corporation

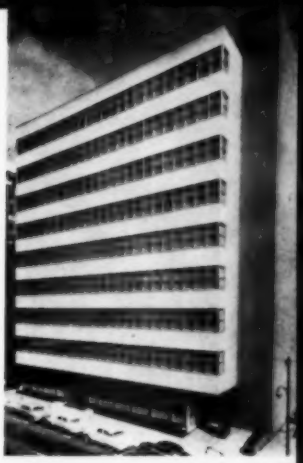
BOTH STEEL AND aluminum windows are being used more extensively in all kinds of modern building construction. This applies to both commercial and residential double hung windows, projected windows, residential casements and horizontal sliding windows. The enormous increase in the demand for metal framed windows has resulted in radical changes in scheduling, facilities and equipment.

For example, for treating and protectively coating aluminum windows and their components, we have installed conveyors and tank systems capable of processing 1500-lbs., and 3300-sq.ft. of metal per hour. To give you some idea of the magnitude of this equipment, it is designed to treat and coat an average of 17½ load bars per hour; each load, including the bar, weighs 500-lbs.

The purpose of this equipment is to remove various shop soils from aluminum windows and component parts, then etch the aluminum surfaces (thus producing a uniform appearance) and finally protect this bright uniform finish with a coat of methyl methacrylate lacquer. Through proper control of



At Ceco you see conveyors and facilities for automatically dipping and withdrawing loads of aluminum windows to clean and surface treat them, and finally coat them with a clear lacquer for outside service.



tank solutions, correct timing and coordination of the conveyor systems, the process is completely automatic, the finish and coating are uniform, inspection is unnecessary and rejects have been eliminated.

Aluminum Windows Are Hung On Conveyor Load Bars

Aluminum windows and their components are manually hung to load bars on the load and unload conveyor. The load bars are spaced on 14-ft. centers on this conveyor. Each bar has two trolley wheels. Especially designed hooks are used for each size and type of window and part so that each one is firmly held in exactly the correct position to promote complete drainage of all solutions used in cleaning and etching the surfaces, and for the final lacquer coating.

The bars, loaded with windows and parts, travel lengthwise on this conveyor until they reach the automatic transfer to the tank conveyor which we will refer to as the walking beam unit. At the transfer point the trolley wheels on which the load bar travels are automatically turned 90° on a turntable before the load bar is propelled forward on the walking beam unit over the seven tanks.

Loads of Parts Are Lowered Into and Lifted From Tanks

The walking beam conveyor indexes over the seven tank section. A 2-stage drop section is provided over tanks No. 1 and No. 2 to permit by-passing the etching section should this be desirable at any time. A 5-stage drop section is provided over tanks Nos. 3, 4, 5, 6 and 7. As the conveyor indexes in these drop sections, the load bars

descend by electrically driven hoists which immerse the windows and their components in the various solutions in the tanks. In this manner each window and/or its components are immersed in each solution. The total immersion cycle may be varied from a minimum of three minutes to a maximum of four minutes. The tank system consists of the following:

Tank	Solution	Temp.
1	Mild alkali cleaner	170° F.
2	Cold water rinse	Room
3	Alkali etch solution	170° F.
4	Cold water rinse	Room
5	Mild chromic acid	Room
6	Cold water rinse	Room
7	Hot water rinse	200° F.

After leaving the last tank where a hot rinse occurs, the suspended windows and their parts index 3-ft. over an air dry section between the last rinse tank and the lacquer dip tank. During the time lag of approximately 15 minutes in this section the windows and their parts become thoroughly dry.

Lacquer Dip and Drain; Conveyor Transfer Point

Over the lacquer dip tank there is a single drop section which lowers the windows and parts into the lacquer; then it returns the load bar to the conveyor level. Upon reaching this level the dipped work

Aluminum windows leaving the drain area. The load bar in left foreground is at the transfer point, while the window at right is on the load and unload conveyor, on its way to the unloading station. Windows in right background, on slightly lower level, are traveling on load and unload conveyor to the entrance of the dipping tank system far in the background.

We're inclined to base this statement on the testimonies of the many manufacturers we have been privileged to serve.

High volume, high quality finish production is almost a necessity everywhere today.

Users of our oven designs and installations tell us they are accomplishing this with comparatively low operating costs.

This makes for satisfaction all around.

Typical Quotes from Many of the Satisfied Users of LANLY Ovens in Diversified Industries

"Our paint appearance and gloss has improved considerably since we installed the New *LANLY BAKE OVEN.*"

R. O. R.

"We bake twenty-two colors in pastel shades on metal. With the LANLY OVEN we have experienced highly satisfactory results in obtaining uniform color and complete baking."

K. W. B.

We'll welcome the opportunity to discuss your drying and baking operations with you without obligation.

WRITE FOR THE CATALOG . . .

LANLY
FINISHING OVENS
THE LANLY COMPANY • 760 PROSPECT AVE
CLEVELAND, OHIO

remains directly over the lacquer tank for about 30 seconds to permit a fast run-down of excess lacquer before it advances into an enclosed drain area which is attached to the lacquer dipping tank.

At the exit end of the drain area there is a transfer point which is a duplicate of that located at the entrance to the tank system. At this transfer point the trolley wheels of the load bar are rotated 90° and picked up by the load and unload conveyor which moves them forward to the unloading station.

Safety Devices and Fire Protection

Obviously the timing of the load and unload conveyor and the walking beam unit must be closely coordinated to produce a smooth flow of windows and components through the system. Both conveyors may be controlled from a central panel. The entire system is equipped with safety devices which, among other things, prevent a load that is too wide from entering the tank system.

The lacquer dip tank and the attached drain enclosure are well protected against fire by a two shot CO_2 system.

Test Strength of Solutions; Test Viscosity of Lacquer

All solutions in the cleaning and etching tank section are titrated every hour, and additional chemicals are added when needed in order to maintain prescribed solution strength levels.

To accomplish proper coverage and correct drainage within the allotted time, the viscosity of the lacquer is tested every hour and solvent is added when required to maintain the pre-established viscosity. It is through correctly engineered equipment, accurate specifications and close controls that this automatic cleaning, etching and lacquering system works so efficiently in mass production.

T. V. DuBois of Cincinnati Dies

T. V. DuBois, founder and president of the DuBois Co., Inc., Cincinnati, manufacturer of chemical cleaning compounds for institutions and industry, died suddenly (November 23) at his home of a heart condition.

Mr. DuBois, who founded the company in 1920, built a business which extends in all states, having manufacturing facilities in Cincinnati, Los Angeles, Dallas, and is presently constructing a major facility in the New York City area at East Rutherford, N. J.

J. F. Gschwind; Ross Eng'r'g. Corp.

The J. O. Ross Engineering Corp., New York, N. Y., announces the appointment of Jean F. Gschwind as Vice President of Development & Research, a new office in the company. He will be in charge of all development and research activities concerning Ross air processing systems, used in such fields as paper, textile, automotive, paint finishing, heating, drying, etc. Mr. Gschwind has been with Ross Engineering for more than 20 years.

FIRST CLASS

Any way you look at it, "First Class" means the best there is. That's why we work hard to put this label on every Spruance Finish. For 52 years we have kept an ear tuned to the opinions of the men in industry who spray, brush, dip, rub, bake and inspect finishes. As a result, Spruance Finishes are scientifically formulated to apply easier, dry at desired speeds, give you "First Class" jobs with less re-do's and fewer headaches. Fortunately, these same factors contribute to more sales . . . extra customer satisfaction. If you aren't using Spruance Finishes now, perhaps a "trial run" would benefit you . . . and us. Let's talk it over soon.

Spruance

THE GILBERT SPRUANCE COMPANY
Philadelphia 34, Pa. • Winston-Salem, N.C.
Wood Finish Originals • Metal Finishes • Maintenance Paint Products

*fine finishes

How to Keep Painting and Finishing

SAFE FROM FIRE

By E. A. ZAHN, Finishes Consultant

IN EVERY painting or finishing area cleanliness and orderly neatness contribute a great deal toward minimizing the fire hazard; yet fires have started in clean areas too. Many more of them have started in sloppy areas. "No Smoking" signs impress some people. Others bump their heads on them and, with a lighted cigar or cigarette in hand, call the sign a physical hazard. Luminous red letters on a white background, conspicuously mounted, appear to be the most effective.

Sparks From Welding, Cutting Scraping, Smoking, Grinding

Beware of dare devils who think that "No Smoking" and other safety rules are ridiculous. Take, for example, a maintenance or a construction worker whose specialty is gas welding and cutting. More paint fires have started from hot sparks of a welder's torch than from any other single cause, except possibly smoking. Welders are human beings, and it should be possible to explain that hazard to them.

Probably most of us have heard about the chap who found out that he could throw a lighted match into a pail of gasoline without starting a fire. He was looked upon as a hero for some time. Then one day he demonstrated his talents for a visitor who turned out to be the district insurance inspector. He was lucky in getting off by merely being promptly fired. He could have been blown through the roof.

Law Breakers Are a Hazard; Steel Containers Grounded

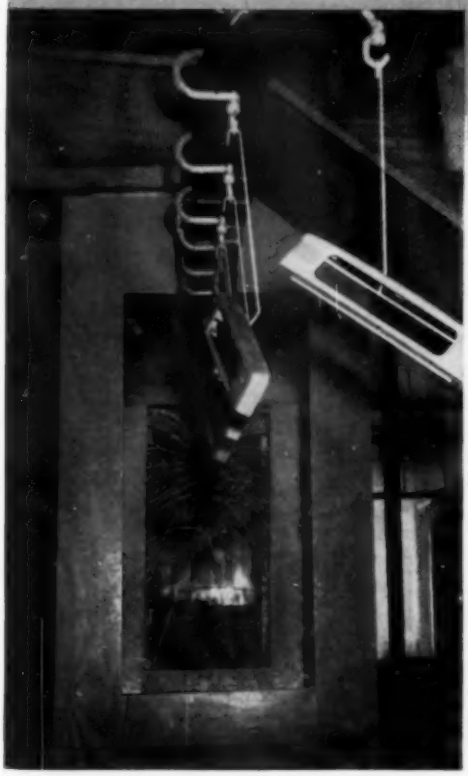
Fire laws for industry seem to be like all other man-made laws—made to be broken by certain individuals. If the law breaker really had something to gain . . . . but he hasn't. Furthermore the fire lawbreaker isn't necessarily the one who gets hurt either. He is a worse hazard than all of the inflammable materials put together. For some reason he doesn't believe the hazard is as serious as it really is; and he doesn't believe in signs.

Remember the signs that read, "All steel containers for solvent and paint must be grounded when in use"? That sign is often violated. The violator tries to be funny when he goes around picking up static on his rubber soled shoes and then scares a fellow worker by touching him on the ear. That little spark can start a big fire. [*To 36*]

Editor's Note: This article is a condensed version of a chapter in Mr. Zahn's 18-chapter book, "Industrial Finishing and Common Sense," soon to be published by Research Press, Inc., Dayton, Ohio.

? DIP IT? SPRAY IT? ? ? ? BRUSH IT?

Flow Coat It!



Panel section for Wayne Pumps enter Koch Flow Coating machine to receive epon ester prime coat.

Products large and small, plain and complex are being given superior organic finishes by Koch Flow Coating Systems. Manufacturers are profiting by these tremendous advantages of flow coating . . .

Utilizes 97% of the paint.
Eliminates direct labor on paint application.
Saves floor space.
Slashes actual cost.
Simplifies maintenance.
Assures consistent quality.

Just ask us . . . no obligation! Koch engineers will appraise your finishing problems and show you how to improve production and products through **flow coating!**

WRITE FOR DATA 1158

DESIGNING | ENGINEERING
FABRICATING | SUPERVISION

- Exhaust Systems
- Air Make-Up Systems
- Ventilating Systems
- Finishing Systems for Wood and Metal

GEORGE KOCH SONS, INC.
Evansville 4, Indiana
CHICAGO OFFICE, Merchandise Mart

There are fires and there are explosions; often there is a combination of both. When they do happen everybody loses. The paint and the solvent loss may be the smallest item of all. These losses can be replaced within a very short time.

Valuable equipment can be destroyed in a fire or an explosion. This costs more money than the paint and a long time may elapse before it can be replaced.

What A Typical Fire Loss Can Really Amount To

Assuming that only paints, solvents and the equipment are destroyed, there is a much greater loss to be considered. The loss of production can be the greatest loss of all. For example, let us assume that an item is in volume production at the rate of 1000 units a day, has a billing value of $100 a unit and a profit value of $10 a unit. A production tie-up of one week—which is a low estimate for a fire shut-down—costs the manufacturer a billing loss of $500,000. The profit loss may look like only $50,000, but add in the down time and other losses, and it will look entirely different.

Sometimes a manufacturer is well enough insured, or has sufficient capital on hand to get back into business within a few weeks. How about the workers who depend on this week's pay for next week's bread? This could be disastrous for many—and isn't it too bad when we realize that *the fire could have been avoided by observing simple warning signs.*

It would be strange if, in an industrial paint fire, someone wasn't seriously burned or even killed. Insurance in that case plays its part, but how about the families of those who did get burned or killed?

There must be better ways in which workers can be made to realize that conscientious safety men have a good reason for every caution sign and every safety rule they prepare and put up. The information on which they act is based on accurate statistics and their decisions are designed to protect both the manufacturer and his employees. The employee's job and his life are both at stake.

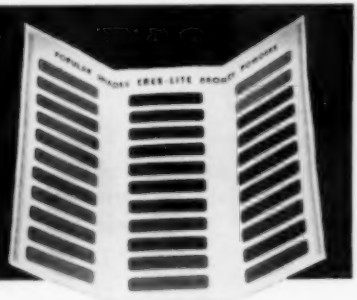
Methods of Paint Application Compared as to Fire Hazard

The manufacturer must consider process safety when selecting painting and other process methods. Of the common methods of paint application, some can be more hazardous than others. Protection against material, equipment, production losses and against personal injury are all involved in production painting.

In the case of manual spray painting, past records show there are two potential hazards. A spark can explode atomized material coming from the spray gun in an area where practically everything is inflammable. The accumulation of dry overspray in a spray booth and in the exhaust stack is also a hazard. It is a hazard not only when the production line is moving but during clean-up time too. Hand spray installations require constant policing. In at least one case, the work hangers on the conveyor became sufficiently coated with paint so that they were insulated and no

FREE!

NEW COLOR CARD JUST OFF THE PRESS!



Featuring Full Range of 33 Colors - and New Shades Not Shown Before - For Immediate Delivery

CRES-LITE

BRONZE POWDERS

For Smoother, More Brilliant, Plated-Effect Finishes, Pure Metallic Bronze Powders Are Unequalled.

FOR SPRAY, DIP OR FLOW COATING, NOTHING GIVES A PLATED EFFECT LIKE PURE METALLIC BRONZE POWDER.

IN STOCK—a tremendous selection of colors, including the popular *Metallic Pastels*, available from stock for immediate shipment.

COLORS MATCHED—with no variance in quality, color or lustre from batch to batch. Fast service guaranteed.

SPECIAL COLORS—our Design Department will create new colors and shades of metallic finishes for you on request. Over 25 years experience in creating special colors for the plastic and metal finishing trades assures satisfaction.

WRITE for your Free color card of in-stock Cres-Lite Bronze Powders.

CRESCENT BRONZE POWDER CO.

118 W. Illinois St., Chicago 10

1841 S. Flower Street, Los Angeles 15

longer electrically grounded. As the rubber-soled operator reached to turn a part on the conveyor, a static spark started a fire.

In another case, during the regular vacation shut-down period, several operators were cleaning the concrete floor of a spray booth with solvent. A small nail in the shoe heel of one of the workmen caused a spark which cost this man his life. It could have caused more casualties; the exhaust stacks had just been vacated by two other cleaning workmen.

Different Kinds of Spraying; Dip Coating; Flow Coating

In the case of electrostatic spraying, there is the possibility of a potential spark in the area where paint is being atomized. By safety rule, only authorized personnel are allowed inside an electrostatic booth or painting area. This rule is often violated. There seems to be an attraction for some people to such areas. The signs "No Admittance" and "High Voltage" are there for a purpose and should be respected at all times by all people.

In the case of conveyorized dipping, here we can really visualize the possibility and danger of a large fire. The quantity of paint material in process is greater than with any other method. Tanks containing 5000 gallons of paint are not uncommon and often exist in an open area. If each person in contact with such an installation could realize the existing ideal explosive mixture at the interface between the liquid paint and the surrounding atmosphere, he would keep a little greater distance between himself and the tanks. He would be extremely careful and he would insist on others being careful too.

Flow coating offers an approach to greater painting safety because no operators have or need have access to the equipment interior during its operation. The tunnels are hazardous since a solvent vapor and air mixture is necessary for film leveling. Accurate instrumentation, in this case, contributes considerably to safety; and, as in all other types of industrial painting, only trained authorized personnel should ever be allowed in the area.

Paint Storage Areas; Personnel; Solvents

Automatic spraying does not offer complete safety either, but it does reduce the number of workmen needed in the exposed area. It produces the same inflammable and potentially explosive mixtures as hand spraying does.

One element that is so often conspicuous by its absence in painting and in paint storage areas is *common sense*. Surely there are enough warning signs inside and outside the danger areas for those who can see. There is also enough solvent smell in the area for those who refuse to see the signs. Any person who refuses to be warned by the conspicuous signs and the solvent odors, and persists in being reckless, should be fired immediately. It is not a case of whether or not he will have an accident; it is a question of how soon it will happen.

Solvents, I believe, contribute most to the hazards of a finishing or painting area. It is unfortunate

Modern Facilities Will Produce....

LINDEMAN 50 YEARS SPECIALISTS IN WOOD FINISHING MATERIALS

7,400 Sq. Ft., New Research and Formulation Laboratory in Galax, Va.

FINE WOOD FINISHES

LINDEMAN has the experience and the facilities, plus a fifty-year reputation, to manufacture superior finishing materials for wood and allied wood products. Permit our salesmen and Technicians to help solve your finishing problems.

Courteous Cooperation ***Quality Materials***
Dependable Service ***Economical Prices***

LINDEMAN

Wood Finish Company, Inc.

Indianapolis 6, Ind. Galax, Va.

too, because they serve only as a means of application. A great deal more thought is being given to using higher solids applications where less solvent will be involved.

Clean Pipe Lines of Paint Can Offer Added Safety

In any automatic painting process where most of the paint is in pipes, there is less danger than where quantities of material are exposed in open tanks. If the installation is enclosed and if the operators are outside of that enclosure when it is operating, it must be considered to be a contribution to safety.

Wherever items being painted or finished are hung from an overhead conveyor and travel through a danger area, it is important for the hangers and work holders to be in good condition and for the work to be safely arranged and securely hung every time so nothing will fall off or crash against something and cause a pile-up which might spark a fire or an explosion.

Whether you have a 5000-gallon dip tank or a 6-man spray booth, the potential hazard is there and it must be recognized and guarded against. Every known precaution can be taken but the hazard cannot be eliminated. It can only be minimized. We must always rely on the operators to use good judgment. Just putting up "No Smoking" signs to let them know that these materials are inflammable is not enough. All operators are entitled to be taught to have a real healthy respect for the possible fire or explosion that might occur.

Systems That Release CO_2 Automatically to Put Out Fire

A 2-shot CO_2 system can go a long way toward providing fire protection. But we must also remember that the sensitizing units must first get hot before the protection system can operate. The existance of a CO_2 system doesn't guarantee that there will be no fire.

A CO_2 system, at its very best, can only help to keep fire losses down to a minimum. That minimum will depend upon several factors. By the time a fire over a dip tank is hot enough to trigger a CO_2 system, the chances are that one shot of CO_2 will not put out the fire every time. If the fire has spread beyond the area protected by the CO_2 system, automatic sprinklers must come into play also. When they do, then you can really begin to count the dollar loss in terms of material, equipment and production.

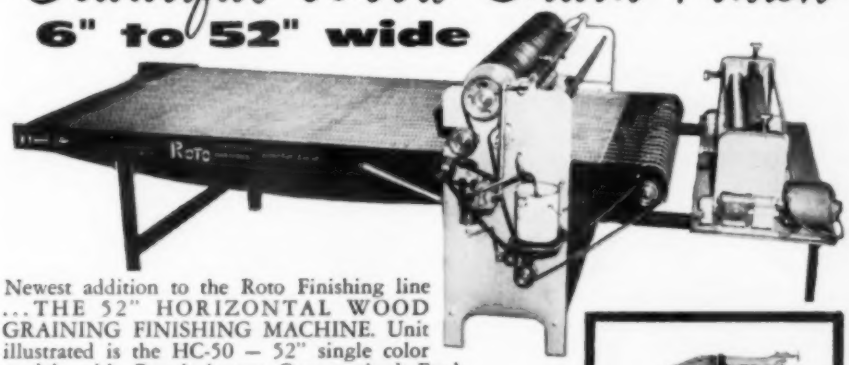
Added protection that is equally as important as automatic fire protection systems is operator training. Each operator should know enough about the hazards involved to become a preventive policeman in his own right and for his own protection.

Submit New Plans to Fire Insurance Underwriters

Our proposed painting installation drawings should be submitted to the insurance underwriters for comment before installation, or even before purchase for that matter. Where should those comments be directed? They should go to the supplier who engineered the equip-

Beautiful Wood Grain Finish

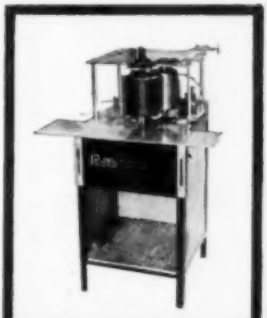
6" to 52" wide



Newest addition to the Roto Finishing line ...THE 52" HORIZONTAL WOOD GRAINING FINISHING MACHINE. Unit illustrated is the HC-50 – 52" single color model, with Revolutionary Conveyorized Feed and Varnish roller coating attachment. Like the well known HV and previous H models, the HC-50 is also available in models that print two or more colors simultaneously.

Economical in Price . . . Tops in Production

Roto Graining Machines simulate the finest true fidelity reproduction of beautiful wood grains on even the most inexpensive, low cost woods, composition boards, metal or paper. Prints on completely assembled units or pre-fabricated parts . . . grains on flat, round or curved surfaces.



ROTO EB-6

The Roto Vertical Edgebander, EB-6, is ideal for small parts. Use along with any larger graining unit; Available with right or left hand drive, when attached to conveyorized system. The horizontal EB-6 is ideal for small table manufacturers using plastic tops. Features a continuous feed belt that prints high speed graining.

ROTO HV-24 — HV-30 — HV-36
The most versatile graining machine available!
Interchangeable, horizontal or vertical operation

Roto can solve your finishing problem . . . 13 models to choose from.

FOR FURTHER INFORMATION WRITE, WIRE OR PHONE NEWMARK 6-4213 OR NEWMARK 8-6691

ROTO FINISHING SYSTEMS 1501 South Alameda Street, Compton, California

ment, but a copy should also go to the equipment buyer so that he will have an opportunity to suggest modifications in keeping with his own safety regulations and policies.

Safety of equipment and safety against losses by fire causing production dollar losses are not the only consideration either. Safety as regards health and physical injury is equally important too. It is industry's problem and responsibility to furnish healthful working conditions for all. The mere pay grading of jobs in relation to hazard is not a total answer by any means. Responsible personnel must be selected for those hazardous occupations.

Claremont Waste Announces Name Change

The Claremont Waste Manufacturing Co., Claremont, N. H., announces a change of name to Claremont Flock Corp. The new name better defines the scope of the corporation's activities.

Over the years, the technological demands of industry have caused this company, in its development and expansion, to devote its operations exclusively to the conversion of natural and synthetic fibers into Flock. The new name, therefore, is logical and appropriate. Personnel, policies, facilities and location remain unchanged.

Ahrens Named Paasche Sales Manager

The appointment of Donald Ahrens as sales manager of Paasche Airbrush Company, a division of Cline Electric Manufacturing Company, Chicago, was announced by Paul A. Benke, vice president and general manager, during the annual Paasche sales meeting last month. Mr. Ahrens started with Cline Electric Mfg. Co., the parent organization, in April of 1951 as administrative assistant in the War Products Division. While at Cline, he went through a rigorous sales training program which included field service training.

He came to Paasche Airbrush Company as a field service trouble shooter in 1955 and soon became Manager of the Chicago sales force.

Neilson Chemical Co. Moves To Larger Plant

Neilson Chemical Co., for 26 years manufacturer of "Prep" products for phosphate coating, cleaning and preparing metals for painting, announces its new quarters. Continuing the expansion of its line of products (taken place in the last few years, and other products to be added soon) this growth has necessitated much larger plant, office and laboratory facilities. The company's new address is 2300 Gainsboro, Detroit 20 (Ferndale), Michigan.

Neilson Chemical Company's new plant at 2300 Gainsboro, Detroit 20 (Ferndale) Michigan

Eastman Chemical Announces New Officers

The advancement of three officers, and the selection of two new vice presidents by the board of directors of Eastman Chemical Products, Inc., were announced by James C. White, board chairman, and Wm. S. Vaughn, president.

Palmer Magoffin Williams

Spencer E. Palmer, a vice president, moves up to first vice president of Eastman Chemical Products, Inc., Eastman Kodak Co.'s marketing subsidiary for products manufactured by the Tennessee and Texas Eastman divisions. R. S. Leonard, at present comptroller, will assume the duties of assistant vice president. R. L. Flanary, assistant comptroller, will become comptroller.

The new officers will be Dr. James E. Magoffin and David C. Williams, who were elected vice presidents. Dr. Magoffin will be in charge of the chemicals division of Eastman Chemical Products, Inc., succeeding Henry L. Ford, who has been elected a vice president of Tennessee Eastman Co. Mr. Williams will head the plastics division, now under the direction of Mr. Palmer.

The election of these officers brought about additional changes in the Eastmaan Chemical Products organization as of January 1, 1958. John P. Tokarz, now assistant to the first vice-president of Tennessee Eastman, became assistant to the Eastman Chemical Products first vice president.

E. C. Cathcart became sales manager of the plastics division, succeeding Mr. Williams. W. P. Bussart, in charge of the St. Louis office, will be transferred to Kingsport as assistant sales manager in this division. Guy A. Kirton, assistant sales manager for the chemicals division, will assume the duties of sales manager, now held by Dr. Magoffin.

These officers and sales officials have long been associated with the Eastman organization, both in manufacturing and in sales, as well as in administrative positions.

Spray Gun Versatility

A graphic demonstration of the versatility of the spray gun is one way to insure immediate interest on the part of students attending a course on spray painting techniques. Irvin B. Thomas, DeVilbiss Co. instructor, starts off a

Thomas demonstrates spray gun versatility.

class by demonstrating that versatility by painting a legible sign with a spray gun. For more than 50 years, the company has conducted schools to train both the beginning and the advanced painter in every field on how to obtain better, more economical finishes with the spray method.

G. B. Work, Died Dec. 5 in Florida

Mr. G. B. Work, former president of Reliance Varnish Co., Louisville, Ky., died Thursday, December 5, in a hospital at Ft. Lauderdale, Florida.

Mr. Work headed the Reliance company from March 1955 until he retired last June and moved to Pompano Beach, Fla. Before joining the company, he was general manager of the Zapon Division of the Atlas Powder Co. for eight years.

Earlier he was sales manager of the Reading, Penna., division of The Glidden Company.

Survivors include his wife, Mrs. Valoise Work, a son G. B. Work, Jr., Cleveland and a daughter, Miss Ronda Sue Work.

New Stop-Off Coating Requirements

FOR MANY YEARS the application of organic stop-off coatings to metals which are to be partly electroplated has been considered a more or less subordinate operation—except with those who are vitally concerned with it.

We now realize that the technological advances in missiles call for the development of more improved methods and materials. With increased attention diverted to this phase of national defense and survival, many metal processing functions will require the help of the organic finisher to produce a dependable stop-off coating.

In many phases of the jet aircraft structures it is essential that gears and other parts receive heat treatment. At the same time precautions must be taken that certain portions of the parts are not contaminated by a penetration of furnace gases such as nitrogen or carbon monoxide. Normally these areas to be protected are copper plated as a masking operation. It is necessary to apply a stop-off or mask on the surfaces that are not to receive a copper deposit.

The copper plating is done in an electrolytic bath containing high concentrations of copper cyanide, potassium cyanide and caustic potash (potassium hydroxide). These materials alone will normally act as excellent paint strippers—and in addition the hydrogen bubbles produced at the cathode will also

A
multi-metal
lacquer
PYROXCOTE® No. 26-105
A clear metal lacquer of unequaled versatility
★ Clear as a dew drop—and non-yellowing.
★ Weather and marine resistant
★ Non-spotting on highest polished surfaces.
★ Applicable by all conventional methods.
Pyroxcote No. 26-105 is an all-around marvel for clear finishing on plated goods, brass, copper, aluminum, silver, steel and other metals. Such versatility is hard to believe—but we have case histories that convincingly back-up our statements. Write or phone us for full details on how you may benefit by specifying Pyroxcote No. 26-105 in your finishing room.
CHICAGO 32 Virginia 7-4800
PAOLI, PENNA. PAOLI 4141
Pyroxylin
PRODUCTS, INC.

tend to destroy any paint film.

Of course, there are organic coatings such as epoxy and polyurethanes that could withstand the inorganic chemical attack, but they must also be stripped off later. Anyone who has used epoxy or polyurethane coatings will realize that stripping them is quite difficult.

As far as I know, there is only one manufacturer who produces an effective copper plating stopoff coating that will resist a plating time necessary to deposit up to .008-in. of copper film. The proper application of this stop-off material is an important aspect in its usefulness. In applying the stop-off coating it is usually best to make two spray passes with the gun "triggered" so that a dry film is produced. Two subsequent wet passes should insure the flow necessary to reduce invisible porosity in the film.

After plating for the required length of time, the stop-off coating is stripped by using simple synthetic reducers of the aromatic solvent variety, leaving the fine lines of copper deposit ready for subsequent heat treatment.

While the use of these copper stopoffs is increasing in many of the aircraft and missile plants today, there is no doubt that its volume will still be only a minute function of the industrial finishing field as a whole. However, with all of the talk of satellites and ICBM, there can be no question of the importance of this material in our struggle to maintain technological leadership.—*C. L. Ponz.*

Pyroxylin Products Appoints J. B. Lowry, Jr.

Pyroxylin Products, Inc., Chicago, and Pyroxylin Products Co., of Penna., Inc., have appointed John B. Lowry, Jr. to their eastern sales staff. Mr. Lowry will headquarter in central New York, and his territory will include New England, upper New York state and eastern Canada.

Are You In A STEW?

COSTS RISING ABOUT

HERE'S A WAY OUT – ORDER FROM POTTER

And get all the advantages of—

Potter Service— CUSTOMER COMES FIRST—Profits Second. You will like the way we handle your business. Orders shipped day received by fastest carrier.

Potter Quality— High Solvency • Good Flow & Blush Resistance • Agreeable odor • (No reclaimed solvents)

Potter Uniformity—Shipments same as sample—every time • Mixed by weight • Clean Drums

Potter Special Formulation—Tailored to your needs • Will match your sample and improve it as you designate.

Potter Savings— Possible because we are THINNER SPECIALISTS. Large sales volume • Low overhead • Tank car purchases • Experience—over 32 years.

POTTER THINNERS ARE EASY TO TEST. Just mix with your lacquers and observe results. If it mixes all right—sprays all right—and dries all right—It IS all right.

Let Potter help you cut costs.

OVER 800 SATISFIED CUSTOMERS

Send for FREE SAMPLE TODAY.

YES, send FREE SAMPLE, at no obligation.
The product we make is: _____
We use Lacquer Thinner for:
☐ Spray ☐ Dip ☐ Cleaning ☐ Other
We use Lacquer Thinner on:
☐ Metal ☐ Wood ☐ Other
We want it to dry: ☐ Fast ☐ Slow ☐ Medium
COMPANY NAME _____
NAME _____
Address _____
City _____ Zone _____ State _____
PLEASE COMPLETE COUPON—IT HELPS US TO HELP YOU.

POTTER PAINT CO.
Cortland 1, New York
or Cambridge City 1, Indiana
Write to your nearest location

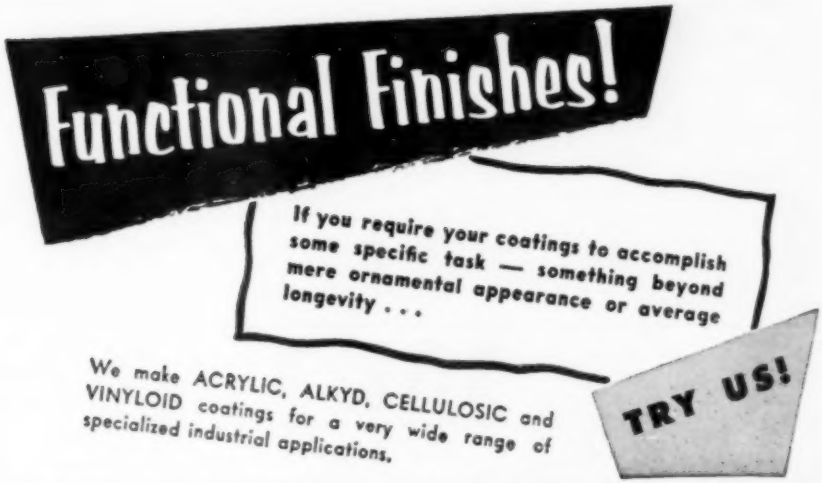
Why So Many Rejects? And Service Calls?

OFFICERS OF A company that operates a production plant are frequently unaware of any quality rejections in the finishing room. Actually many of the problems are not caused by inferior paints, lacquers or equipment. Indirectly one of the greatest causes of quality control defects can be traced to human relation policies as made by top management.

The skill and craftsmanship shown by an operator who has anything to do with applying organic coating materials is a determining factor in the rejection rate or lack of same, as found in most painting or finishing installations. On many occasions one or more simple adjustments in the spray equipment, or a change in paint thinning will be all that is needed to relieve an annoying problem. Usually the will to initiate these corrections can be found only in a sprayer who takes pride in his work.

The supervisor of finishing is usually a man with a burden. As the "low man on the totem pole" in the management team, the pressure is on him to "get things done" on the production line. His employees usually have the benefit of membership in some form of bargaining representation. It is not uncommon to find militant workers whose first thought, at the slightest provocation, is "to run for the shop steward".

As the first step in a grievance procedure, the supervisor's


Functional Finishes!
If you require your coatings to accomplish some specific task — something beyond mere ornamental appearance or average longevity . . .
We make ACRYLIC, ALKYD, CELLULOSIC and VINYLOID coatings for a very wide range of specialized industrial applications.
TRY US!

• **THE VARNISH PRODUCTS COMPANY**

5206 Harvard Avenue, Cleveland 5, Ohio

performance in this and other functions must be gauged by the extent to which the higher echelons of management back up his actions. Should top management fail in this responsibility it not only reduces the efficiency of the foreman but develops in the employee a protected feeling in which complacency becomes rampant and pride in his job goes out the window.

Recently in one plant a technical representative from a paint vendor noticed that frequently he was called in on problems which seemed too elementary. Upon studying the situation further he noticed that the supervisor carefully refrained from instructing or directing the spray painter. The path of least resistance was to call for vendor assistance. Unfortunately this is not an isolated case. Here the supervisor was motivated by a mangerial attitude which caused him to adopt a laissez-faire policy. Any rejects could then be placed at the doorstep of the paint manufacturer.

The impetus for improving job pride and satisfaction is an executive responsibility in day to day human relations, particularly in this age of Union strength. Failure to recognize the full duties required by morale raising techniques within the plant can only mean that those rejects for orange peel, etc., are caused (indirectly, of course) by a key executive in the organization, even though he doesn't know much about spraying.

Whether it is called human relations, industrial psychology or group leadership is of no consequence. What matters most where man deals with man, is that barriers be forded to raise the pride and respect of all employees in order to promote an efficient production organization. — *D. Walker.*

Wash Primers; Use Them Correctly

THE USE OF metal conditioning coatings or wash primers is increasing in many phases of aircraft production. This brings to fore some of the problems that arise in the application of these wash primers.

In preparation for any coating, surface conditioning, which includes proper cleaning and degreasing, is absolutely necessary. Some individuals seem to be under the mistaken impression that when wash primers are used the cleaning doesn't need to be so good. On the contrary, in order to derive the best results, more than usual attention should be directed toward surface cleaning. The very nature of the reaction between phosphoric acid and the bare metal demands that the metal surface be chemically clean, so as to not hinder contact between the two reactants.

Most wash primers are shipped as two package systems. The two parts should not be combined until just before they are to be used—in no case not longer than about eight hours before application. While there may be no visible deterioration in the combined materials, it has been found that decreased adhesion and malfunction will occur. This is caused by reaction of the phosphoric acid with the basic zinc chromate pigment in the dispersion.

The physical combination of the acid diluent with the pigmented primer has led to some difficulty in the past. The diluent *must be added slowly with*

DON'T
LET YOUR
STRIPPING
PROBLEMS
GET YOU DOWN!

EPOXYSTRIP
Is a LIFE SAVER—TIME SAVER—MONEY SAVER

A new more powerful paint stripper that outstrips all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies . . . with the same ease that it removes baked enamels, lacquers, etc. No stripping scum—clean rinsing!

- EPOXYSTRIP WILL NOT HARM SOFT METALS
- ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST
- NO SCRUBBING OR MANUAL ASSISTANCE
- RECOMMENDED BY LEADING FINISH MANUFACTURERS

JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

SEND FOR FREE BROCHURE

BECK EQUIPMENT COMPANY
3352 WEST 137th STREET CLEVELAND 11, OHIO

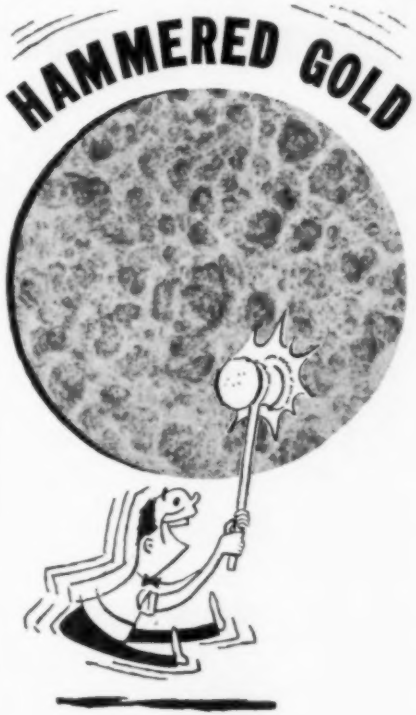
steady and vigorous agitation. The word "slowly" cannot be emphasized too strongly; rapid addition will unbalance the material in the local area of contact and probably cause a partial or complete gelation.

Wash primers are applied by most of the conventional methods such as spray, dip or brush. However, for any of the methods, reduction of viscosity may be necessary. Under no circumstances should more acid diluent be added to lower the viscosity. The diluent is not a thinner. It is merely added for a predetermined reason—in this case to provide the carrier for the phosphoric acid. Too high a concentration of diluent will cause precipitation and/or gelation. The viscosity can be reduced by adding either isopropyl alcohol or butyl alcohol. In larger amounts, a combination of both is most advisable.

As with any specialty type coating, extra care may have to be exercised in the application of metal conditioners. In reality it is not extra care. Rather it is strict adherence to product directions and instructions. If this precaution is observed without deviation, satisfactory results will be achieved.—*C. Conway.*

E. J. Masterson: Body Bros.

Appointment of Edward J. Masterson as central district sales manager of Body Bros., Incorporated, Bedford, Ohio, industrial paint manufacturer, is announced by L. F. Body, president. A graduate of John Caroll University, Mr. Masterson was previously affiliated with another paint company for over 20 years. In his new position, he will be in charge of Body sales in the Ohio, Western N. Y. and Western Pennsylvania area.

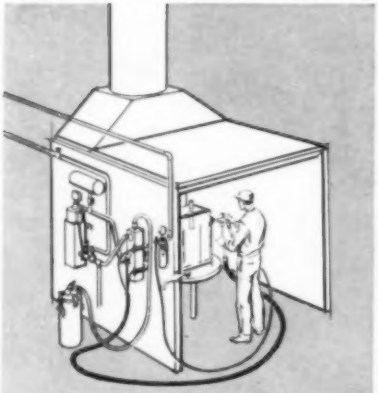


Now . . . in gold . . . hammer so real you'll marvel at its illusion of depth. And only one coat does the trick of covering all imperfections. Available also in copper, brass and platinum. Send for samples today.

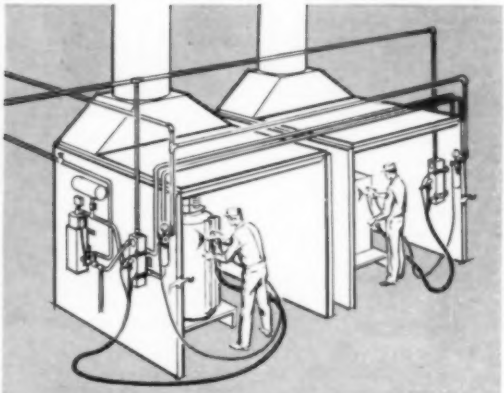
SEA-LAC

DURALAC CHEMICAL CORP.
84 LISTER AVENUE, NEWARK 5, N. J.

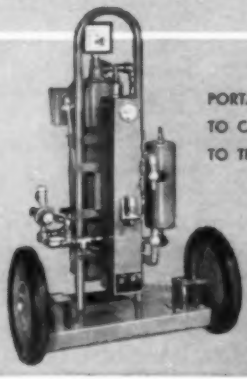
How DeVilbiss Hot



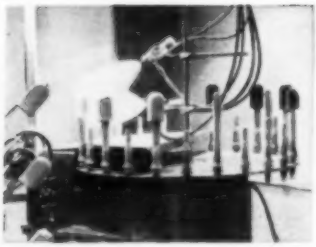
STANDARD OUTFIT . . .



ADAPTABLE TO MANY REQUIREMENTS

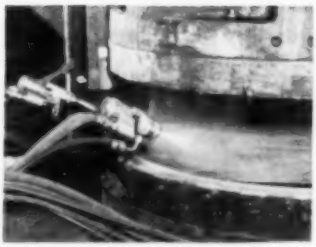


PORTABLE OUTFIT
TO CARRY
TO THE JOB



Automatic Spray Machines coat any shape quickly, automatically, economically. Send for Series I-8000 Bulletins.

Automatic Guns spray drawing compound for accurate, controlled die lubrication. Send for Catalog I-1125A.



Spray cuts painting costs

Heavier film builds • Less overspray
Faster drying • Easier application
Fewer rejects
Better flow-out for high gloss

Using a DeVilbiss Paint Heater, you can get better coverage with *one* coat than you generally get with *two or more* cold-sprayed coats!

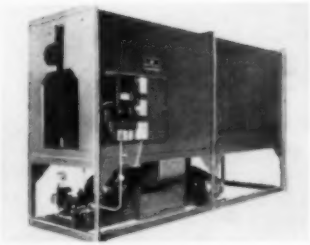
Here's why: Heat acts as a thinner to permit easier atomization and brings about new efficiency in spray painting. Even with your regular paint, heavier finishes can be applied with a savings of up to 50% in materials.

What's more, thinners are vaporized faster, drying time is decreased, finishes flow smoother and with less shrinkage. And the lower spraying pressure greatly reduces wasteful overspray.

Call your nearest DeVilbiss branch today for the complete paint-heater story; or write for free booklet, "New Efficiency from Hot Spray." The DeVilbiss Company, Toledo 1, Ohio.

DEVILBISS

NEWCOMB-DETROIT



← *Ovens* are designed and built to meet your layout and process requirements. Send for Oven Catalog.

→ *Spray Booths.* Over 700 standard models provide efficient paint trapping. Send for Catalog I-7000.

Industrial Baking Enamels

BY E. G. SHUR
Manager, Appliance Finishes Dev. Lab.,
Interchemical Corp., Finishes Division

THE INDUSTRIAL product designer must provide his creation with eye appeal as well as functionality. Having completed design of function and shape, the choice of finish must be made. In an increasing number of instances no external finish need be applied. These are cases where the outer portion of the product has been fabricated of non-corroding metals such as stainless steel or of plastics.

Where steel is used, a choice between organic and inorganic coatings is indicated. In most circumstances the choice lies among paint, porcelain or plastic. This article will discuss organic baking enamels and their place in the field of industrial finishing.

Functions of Organic Coatings

Paint is a generic term. It is the most widely used term which covers the field of protective and decorative finishes. In addition to the basic functions of decoration and protection against weather, corrosion, heat, chemicals and the like, we should consider its role in such aspects as sanitation, radiation control, anti-biosis, light reflectance, acoustical properties and too, the recording of temperatures.

Historical Background

Historically, the real origin of the paint industry is very closely related to the origin of the fine art of painting. Cave dwellers as far back as 50,000 B.C. daubed the walls of their caves with paints based on the extracts of plant roots and powdered colors derived from the earth. From 8000 to 1000 B.C. the Egyptians developed more sophisticated media, using a variety of pigments, organic as well as inorganic; using oil and natural resin varnishes.

Until the 17th century, there was still no real paint industry. The industrial revolution gave the paint industry its real impetus. The

ABOUT THE AUTHOR

Bachelor of Arts in Science, Brooklyn College, 1941.
Master of Science in Chemistry, Polytechnic Institute of Brooklyn, 1951.
Fellow, American Institute of Chemists, 1953.
Interchemical Management Seminar, Harvard Graduate School of business, 1954.
Fellow, American Association for the Advancement of Science, 1956.
Winner of August Haekel Award, Atlantic City, 1951.
George Haekel 1st Prize, N. Y. 1955 and Cincinnati 1956.
Biographee, "Who's Who in the East", 1953.
Active in New York Paint & Varnish Production Club.
Member Senior Grade, American Chemical Society.

dawn of the Iron Age required protection against corrosion. Oils and natural resins were used as binders. White lead was first manufactured in the year 1616.

Oils

Linseed oil has been the most important raw material since the earliest times; it was considered God's gift to the painter. Tung or China Wood Oil was used in the late 80's but did not achieve real commercial importance until methods for gas-proofing it were developed, so it could be processed into varnish. The use of this oil generally upgraded resistance properties and tremendously improved the speed of drying.

Synthetic Resins

The first synthetic resin, ester gum, was made by esterifying rosin with glycerine. Rosin alone had not been satisfactory for use in varnishes because of its high acidity. In 1910 Mr. Baekeland's work in phenolic resin technology was published. Probably the greatest advances in varnish techniques took place after 1925, when the use of phenolic and modified phenolic resins with wood oil at oil lengths over 25 gal. per 100-lbs. of resin, gave us fast drying vehicles with excellent alkali and acid resistance, as well as outdoor durability.

Nitrocellulose

The supply of nitrocellulose and of esters and ketone solvents, which had been made by the Weizmann process and were available after the end of World War I, gave rise to the lacquer business. By 1925, lower viscosity grades were available and a real revolution in automobile finishing took place. Where only one coat of coachmaker's varnish could be applied during the course of a day, it was now possible to completely finish an automobile within a few hours. These lacquers were modified with dewaxed Damar resin and plasticizer.

The most important vehicles presently used in industrial finishes are the alkyd resins which became commercially available in the beginning of the 30's. From this point on, the number, type and complexity of new raw materials available to the coating industry increased at a tremendous rate. Solution vinyls and urea resins became available in 1936; melamines in 1940; silicones in 1944; epoxies in 1947. Each of the resin types contributed in some way to the accelerated rates of drying and cure and resistance.

Epoxy-Ethers

Since the end of World War II there have been relatively few dramatic new developments in the field of industrial finishes. The biggest has been the introduction of the epoxy-ether resins. These have found greatest use as primer vehicles when modified with urea and phenolic resins and when esterified with oil fatty acids. By and large they have replaced the older varnish and alkyd primers in the appliance and automotive industries.

Copolymers

The contribution next in importance has been the use of the prin-

ciple of copolymerization in preparing vehicles for both primers and top coats. Monomers such as styrene, methyl methacrylate, etc., have been used to modify alkyds and epoxy ethers, to produce very fast drying, resistant flash primers and fast curing enamels. Alkyd-urea-melamine blends remain the workhorse in most topcoat appliance applications. These have been improved in properties by gradual evolutionary development. The general overall trend has been to try to develop an oil-free finish—or at least a finish with minimum oil modification—in an effort to improve resistance properties.

Giant Molecules

Now in retrospect, it may be readily seen that the properties of matter which have always been of use in our industry have been those of giant molecules, in oils, cellulose, starch, rubber, etc. There are four fundamental polymerization mechanisms by which such macromolecular polymers may be formed: Addition polymerization, condensation, block and graft polymerization. Addition polymers are formed by a recurrent interaction of unsaturated monomers containing a double bond, for example, polyvinyl chloride.

The polymer is atomically identical with the monomer. Condensation polymers form by the reaction of monomers with an attendant splitting out of a simple molecule such as water, hydrogen chloride, etc. In these reactions the polymer is not identical with the monomer. Block and graft polymers are formed by selectively reacting two or more monomers to produce polymers with a predetermined chemical structure.

Copolymerization

Synthetic polymers may be made first by synthesis of the appropriate monomers and then by polymerization in the proper combination and amounts. The polymerization of two or more species of monomers, each of which is in itself capable of undergoing polymerization, into the same chains, is called copolymerization.

Polymer Properties

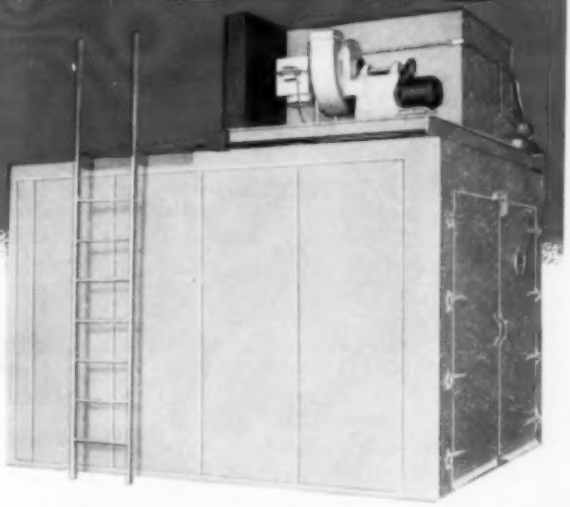
Softening point, solution viscosity, tensil strength, elastic modulus and solubility are properties which vary with the degree of polymerization. Those essentially independent of change in degree of polymerization are refractive index, hardness, electrical properties, color and density. Copolymerization of two monomers, each in itself capable of linear polymerization, results in some lowering of the softening point and an increase in solubility.

Polar groupings, occurring along the molecule of high polymer, exert strong attractive forces on molecules around them. All other things being equal, this attraction is reflected in higher tensile strengths, higher melting points and a more pronounced tendency toward crystallinity. A symmetrical structure —that is without branches or side chains—permits closer molecular packing and greater total intermolecular attraction.

We see that certain important properties such as impermeability,

STANDARD OVENS

Available in wide range of sizes



FOR PRODUCTION HEATING TO 750° F.

Baking organic finishes, preheating plastics, drying chemicals, aging and curing materials in the temperature range to 750°F. suggest a few of a wide range of heat processes that can be processed to your needs with standard Despatch Ovens.

The Despatch uniflow air circulating system makes these ovens capable of unusual heat uniformity, flexibility of heat and important time savings for production.

Other construction features—4" Rockwool insulation panel construction, special floor insulation, either gas or electric heating systems, automatic temperature control and safety system. Available in wide range of work chamber sizes. Write for Bulletin E for description and prices.

619 S. E. Eighth St.
Minneapolis 14, Minn.
Sales and Service in All 26 Principal Cities

DESPATCH OVEN COMPANY

solubility, adhesion, flexibility, elasticity, and plasticity, all are a function of the macromolecular structure present in the resin. The unique properties of high polymers are attributable directly and solely to the unusual shape and size of the molecules.

Cross linking through three dimensional space tends to set the mass into rigid supermolecules of infinite molecular weight. The physical properties of space polymers depend upon the nature of the main chains, the cross-links and the number of cross links. Space polymers are insoluble, infusible and non-moldable.

Solubility

Chemical and structural similarity favor solubility; "like dissolves like." Similar polarity favors solubility. The higher the melting point of the resin the lower its solubility. Solubility increases with an increase in temperature and decreases with increased molecular weight.

The solvent action of atomic groupings of different polarities is specific. These contribute solvent action independently. A solvent mixture is chosen where generally high volatility or selective evaporation of a particular solvent is desired. A need for low volatility or the necessity for maintenance of a constant solvent composition, calls for multi-structural single solvent. A mixture of solvents is frequently better than either alone, for two reasons:

1) Each may solvate a different group on the polymer chain; and
2) The polar group on one solvent will solvate the polar group on the polymer. The solvated polymer chain will then be less polar since the non-polar parts of the solvent molecules will be directed outward and the addition of a less polar solvent may then enhance solubility.

Summarizing the relations between viscosity and solubility briefly, we find that the rate of increase of viscosity with concentration is greater in a poor solvent than in a good one. However, the intrinsic viscosity is higher in a good solvent than in a poor one at low concentrations where the solute molecules are not solvated and are on the point of precipitation. This means that curves of the viscosity of a polymer in a good versus a poor solvent, will cross at relatively low concentrations.

Alkyd Resins

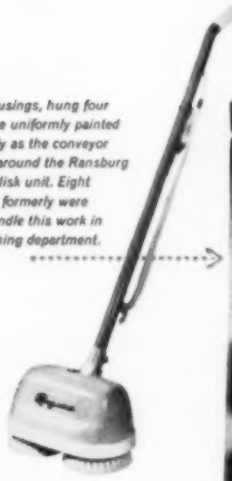
In order to get a tri-dimensional network in alkyd resins, it is necessary to react a dibasic acid with a tri-functional alcohol. With monoalcohols we get diesters; with dialcohols we get linear polymers; with trialcohols we get three dimensional polymers. Pure phthalic anhydride-glycerol alkyds are insoluble, the tridimensional network being too tight. If we replace part of the phthalic anhydride with a long chain mono-basic acid (as in oils) oil solubility is promoted and the unsaturation in the fatty acid improves the drying properties.

The fact that the esterification of glycerol with polybasic acids gives rise to resinous products, dates back to the middle of the nineteenth century when Berzelius

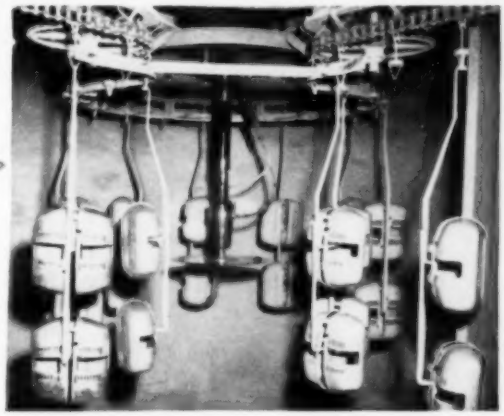
Regina Reports 50% Paint Saving with RANSBURG NO. 2 PROCESS

Electrostatic Spray Painting

That's because Ransburg No. 2 Process puts the paint on the product instead of up the stack



Aluminum housings, hung four to a fixture, are uniformly painted electrostatically as the conveyor makes a loop around the Ransburg reciprocating disk unit. Eight hand sprayers formerly were required to handle this work in Regina's finishing department.



The Regina Corporation, Rahway, N. J., replaced hand spray with Ransburg No. 2 Process to paint their twin-brush Floor Polisher and Scrubber, and their Electrikbroom.

Now, a single reciprocating disk unit automatically handles the work which formerly required eight hand sprayers. Even with increased production, Regina is using 50% less paint. Quality of the work is improved with maximum uniformity on all parts.

NO REASON WHY YOU CAN'T DO IT, TOO! Want to know what Ransburg No. 2 Process will do for you in your finishing department? If your present production justifies conveyorized painting, let us prove the many cost-saving benefits which can be yours. Write for our No. 2 Process brochure which pictures many on-the-line examples of electro-coating on a wide variety of products, and describes our free survey service.

Ransburg ELECTRO-COATING CORP.
Indianapolis 7, Indiana

RANSBURG

prepared glyceryl tartrate. However, not until 1926 when Kienle filed patent applications covering the class of glyceryl phthalate resins modified with drying oil acids, did the tremendous impact of this type of vehicle make itself felt in the paint industry. The first materials made were a far cry from the alkyd resins of today. Much of the equipment used for their manufacture was basically unsuitable, having been borrowed from the varnish maker. The resin solutions themselves were dark in color, unstable and frequently even partially insoluble.

The last 30 years has seen truly tremendous achievements in improved equipment, well documented technology and products which meet almost any application requirement. The formulation of vehicles for the paint industry is no longer dependent upon the jealously kept and secret art of the master varnish maker. What was varnish manufacture in the early part of this century is now the rapidly developing science of the organic resin synthesis.

The greatest number of alkyd resins used in industrial finishes contain phthalic anhydride. Alkyd resins are generally classified according to their fatty acid or oil content as long, medium or short, the latter containing the lowest fatty acid modification. Another method of identification specifies the composition according to the phthalic anhydride content, so that long alkyds contain 15% to 30% phthalic anhydride, medium alkyds 30% to 40%, and short alkyds 40% to 50%.

Resins that concern the formulator of industrial finishes most, are the medium and short oil alkyds. Combinations of these resins have such an unusually high order of toughness, adhesion, water resistance and outdoor durability that they have almost completely replaced nitrocellulose lacquers in the appliance industry and in the automotive industry as well.

[*To be continued*]

The next installment starts out with Urea Resins and goes on to include Melamine Resins, Alkyd Amine Combinations, Paint Mileage, Film Density Measurement, Cost of Materials, The Effect of Pigment to Vehicle Ratio, and Paint versus Plastics.

Price Becomes Westinghouse Board Chaiman: Cresap Pres.

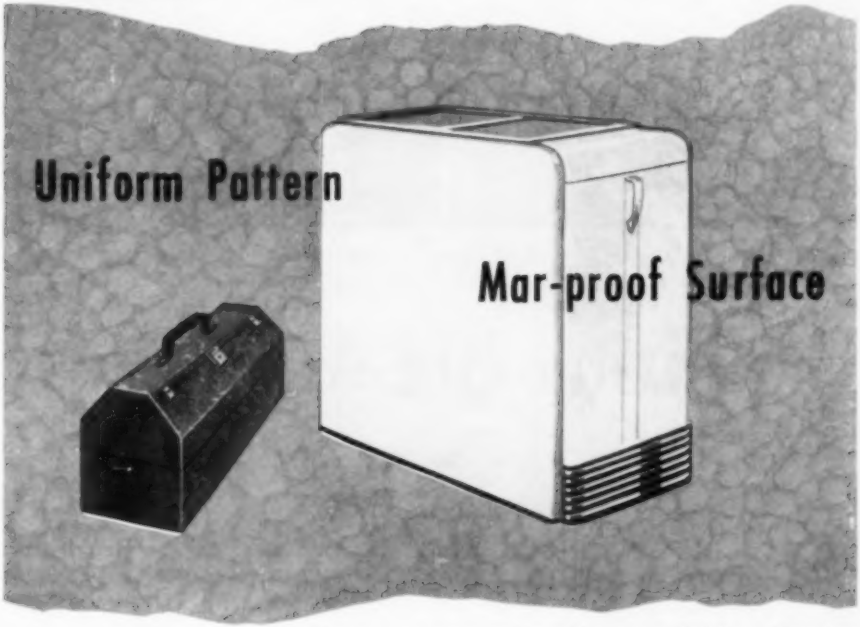
New executive assignments at the policy, administrative and operations levels of the Westinghouse Electric Corp., effective January 1, 1958, were announced by Gwilym A. Price, chairman and president, following a regular meeting of the board of directors in New York City on Dec. 18.

Mr. Price, who has been president since 1946, and chairman since 1955, became chairman of the board. Mark W. Cresap, Jr., executive vice president and a director since 1955, was elected president, and chief administrative and operating officer. E. V. Huggins, who has been vice president-corporate affairs and corporate secretary, becomes chairman of the executive committee of the board of directors and vice president. John K. Hodnette, vice president and general manager and a director of the company since 1955, was elected executive vice president. George G. Main, treasurer since 1949, retains that position and becomes also vice president-finance.

Francis E. Dalton, director, corporate accounting since 1949, was elected controller. Carlisle P. Myers, general counsel since 1955, will retain that position and was elected corporate secretary. Russell B. Read, planning director since 1952, will continue in that assignment and was elected assistant treasurer.

TOUSEY'S

NEW HAMMERCOTE®



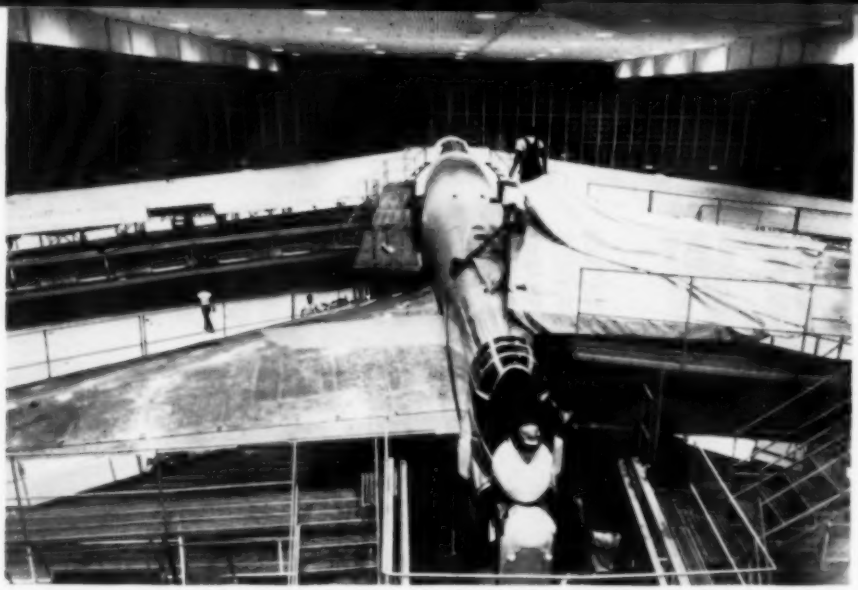
Here is a new concept in Hammer finishes. Despite varying reductions with thinner, or changes in air pressure of 5 to 10 pounds, Tousey Hammercote applies smoothly with amazing uniformity in pattern.

Tousey Hammercote, in the final baked form, gives an extremely hard, mar-proof film that frequently has the appearance of an extra coat of clear having been applied over the original finish.

Our laboratory will be glad to finish one of your products for comparison with the hammer you are now using.

TOUSEY PRODUCTS
DURACOTE for DURABILITY

TOUSEY VARNISH COMPANY
520 West 25th Street • Chicago 16, Illinois • Victory 2-2200



In background is a huge bank of air filters through which outside air enters the hanger.

Painting Big Airplanes

By T. A. Dickinson

HURRICANE HANGER is a name coined by workers at Boeing Airplane Co. to describe a building in which a crew of 22 men currently apply some 95 gallons of paint to each new B-52 Stratofortress after it rolls off the final assembly line.

The name is appropriate, because the hangar uses mercury vapor lights and a man-made breeze (or air moving at the rate of 760,000-cu.ft. per minute) to provide the exact drying conditions specified for finishes on high-altitude bombers which must fly at ultra-high speeds in virtually all kinds of weather conditions.

As hangars go, the corrugated steel structure is not large (being only four stories tall and 323-ft. long) but it has plenty of room for one B-52 or two B-47 airplanes. Its appearance is somewhat squat and irregular due to the external locations of its air supply and exhaust facilities, many of which were installed before the building's outside wall sections were in place.

"Largest Air Filter In the World"

A uniform flow of clean air through the hangar is made possible by using the entire front of the hangar as "the largest air filter

AIR DRY a "Baked Finish" . . .

NEW

SYN * A * LAC

CATALYZED COATING FOR WOODS

A scientifically formulated synthetic for wood finishing that air dries with the speed of lacquer . . . has the hardness, flow, high build and solids of enamel.

A durable film, SYN-A-LAC will not cold check, print, mar or scratch readily . . . is resistant to hot water, alcohol, nail polish and other acids and alkalies . . . will withstand the heat of a burning cigarette for minutes without blistering. A hard blow with a hammer will dent the wood, but the finish will remain intact.

SYN-A-LAC synthetics may be sprayed over wood filler without the use of a sealer if desired; are easy to hand rub and polish. Choice of finishes are available in flat, satin and gloss in clear and colors.

PAINTS SYNTHETICS UNITED LACQUERS ENAMELS

Write for free generous working sample now.

UNITED LACQUER MFG. CORP.

LINDEN, NEW JERSEY

Southern Distributor : Crown Paint, Inc.
2127 N.W. First Ave., Miami, Florida

MANUFACTURERS OF FAMOUS TEXTURED "MULTAKOLOR"

Aircraft spray man wears a respirator.

in the world." This is an inner door parallel to the main hangar door and located about 20-ft. inside it. Except for steel framework, the inner door comprises filter panels—3800 of them, 2-in. thick, mounted double. As each panel is only 19½ by 24½-in., replacement is easy and economical.

In all, the wall-sized air-cleaner door provides 6304-sq.ft. of filter, 4-in. thick. Both inner and outer doors are in modified telescoping sections which slide on floor tracks to pocket positions at each side when a plane is rolled in or out.

Eight huge fans at the sides of the building draw air from the outside. This air enters through oil-dipped filters mounted on rollers, and passes through panel-type steam heaters (thermostatically controlled) to warm the air when necessary. The conditioned air is then forced through overhead ducts into the space between the doors, and out through the filter doors across the full width of the hangar. It moves over an airplane in a forward-to-aft direction, the same as in flight, whisking away paint fumes at their source and assuring uniform drying action.

Air is drawn to the rear of the hangar by two decks of exhaust fans. A lower deck of ten fans pulls spray-laden air through waterfall enclosures where the flow is at the rate of 80,000 gallons every minute. An upper "dry" deck of ten more exhaust fans draws air through woven metal filters.

First, Surface Cleaning For Aluminum and White Paints

When an airplane is backed into the hangar, its surfaces are first cleaned thoroughly with a cleaning solution. A solvent wash is also applied where needed. A network of 30 floor drains carries all waste wash away quickly.

After being air-dried, the inner and outer surfaces (except those key control areas with built-in finish) are sprayed with an anti-corrosion primer undercoat. On the exterior, about 30 gallons of corrosion-and-erosion-resistant aluminized paint are applied to the upper surfaces of the airplane. Two coats of heat reflective white enamel—some 40 gallons of it—are applied to the under sides and nacelles. While one paint is being sprayed on, other areas are masked with canvas and brown wrapping paper carefully edged with masking tape.

Colors; Interiors; Tinted Primer; Paint Storage

As many as 15 skilled spray gun operators, wearing hoods and filter masks, are in action at the same time. About five gallons of red, yellow, white, black, blue and orange paint are applied (via stencils) for access identification and for insignia. [*Cont'd on page 64*]

BETTER PROTECTION for metal surfaces

Isophthalic based paints last longer under severest conditions—*resistant to checking, peeling, chipping*

Now you can add years of protection to metal surfaces thanks to the adhesive properties of Isophthalic based paints. Better film to metal bond means improved performance with fewer prime coats required—saves time, cuts painting costs.

Surface coatings made with Isophthalic have better abrasion resistance than ordinary paints, hold up longer under severe weather conditions, provide improved gloss retention. Whether you buy exterior or interior paints, finishes for furniture or tough coatings for machinery it will pay you to find out about Isophthalic based paint.

ASK YOUR PAINT SUPPLIER about finishes, made from this new material—*Isophthalic.*

ORONITE CHEMICAL COMPANY

A SUBSIDIARY OF CALIFORNIA CHEMICAL COMPANY

EXECUTIVE OFFICES • 200 Bush Street, San Francisco 20, California
SALES OFFICES • New York, Boston, Wilmington, Chicago, Cincinnati, Cleveland, Houston, Tulsa, Los Angeles, San Francisco, Seattle
EUROPEAN OFFICE • 36, Avenue William-Favre, Geneva, Switzerland

4631

[*Concluded from page 62*]

On most interior surfaces, a tinted primer coat does the entire job. Special colors are applied to crew areas to reduce psychological human fatigue. There are many other cleaning and touch-up jobs inside, plus the accurate placing of some 2500 decals (both metal and paper) to identify components and procedures for maintenance and flight crews.

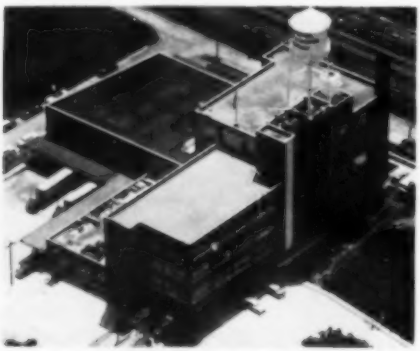
As a fully integrated shop, the hangar has service rooms for paint storage, files of decals, control panels, offices and lockers. The ceiling over the painting area bristles with water sprinklers. A network of scaffolding around the airplane is partly fixed and partly portable. Most of the area above the scaffolding is laced with compressed air supply lines and explosion-proof light tubes.

Amid the scientific hurricane in the new hangar, the Boeing-Wichita crew does the entire job of cleaning, priming, masking, painting, stenciling and applying decals on a B-52, in 32 hours.

Expanded Facilities at Carolina Paint & Varnish

New manufacturing facilities, increasing production capabilities 40 percent, have been completed at the Carolina Paint & Varnish Co., Greensboro, N. C., according to R. G. Brooks, general manager.

A total of 33,000-sq.ft. has been added to the plant area, bringing the total area under roof to 103,000-sq.ft. A division of United Wallpaper, Inc., Chicago, the Carolina plant manufactures a variety of finishes for industrial and consumer applications in the South.



Aerial view of expanded facilities of Carolina Paint and Varnish Company, Greensboro, N. C. The new plant and equipment provide a 40% increase in production.

The company's markets include such major industrial fields as railroads, automobiles, textile mills, appliance manufacturers and shipbuilders. The plant is one of nine United paint and wallpaper divisions strategically located across the United States.

A major improvement in the new plant is the consolidation of production machinery. Where this equipment occupied four floors, the original structure, the same facilities now occupy only three floors.

Andrew Brown Co. Appoints Downey

The Andrew Brown Co., 5431 S. District Blvd., Los Angeles 22, Calif., has appointed William Downey as company representative for various sections of Tennessee, Kentucky, Indiana and Ohio. Bill has represented paint manufacturers for the past six years.

Andrew Brown Co. specializes in manufacturing finishes for industrial, aircraft and automotive use as well as Brolite Z-Spar marine finishes for pleasure boats and shipline finishes for commercial vessels. Factories are located in Maryland, Texas and California.

New Officers Elected at DuBois

Charles A. DuBois and Louis Lerner were elected president and executive vice president respectively, at a meeting of the board of directors of The DuBois Co., Inc., Cincinnati 3, Ohio, following the death of the company's founder, T. V. DuBois.

Chas. DuBois Louis Lerner

The company is a manufacturer of cleaning compounds for institutions and industry, and distributes nationally.

At the same directors meeting, other officers elected were: Ateo Gulino, C. C. Hargadine, Samuel J. Miller, and A. Howard Mount, divisional vice presidents; Paul F. Goebel, secretary-treasurer; and George H. Scheper, asst. secretary and asst. treasurer.

The new board gave praise to the leadership of the founder, Mr. T. V. DuBois, stating that, "company policy and leadership will continue in the same aggressive and progressive manner since the company's founding in 1920."

Ultrasonic Cleaning Machines By Blakeslee and Branson

Blakeslee, one of the oldest builders of automatic industrial washers and degreasing machines, and Branson, well-known in the field of ultrasonic equipment, have joined forces to design, sell, and service an advanced line of ultrasonic cleaning machines.

G. S. Blakeslee & Co. (Chicago, Ill.), which has been building washers and degreasers for over 50 years, is now incorporating Sonogen* generators and transducers whenever ultrasonic equipment is required.

Ultrasonic washers and degreasers using Branson equipment will be available exclusively through Blakeslee in a wide range of sizes, from small manually operated units in standard sizes to large custom-built conveyorized automatic machines. For applications not requiring cleaning machines, the ultrasonic equipment is available directly from Branson.

For further information concerning ultrasonic washers and degreasers, write to G. S. Blakeslee & Co., Cicero Station, Chicago 50, Ill. For data on the ultrasonic cleaning devices themselves, write to Branson Ultrasonic Corp., 40 Brown House Rd., Stamford, Conn.

*Registered Trade Mark, Branson Ultrasonic Corp.

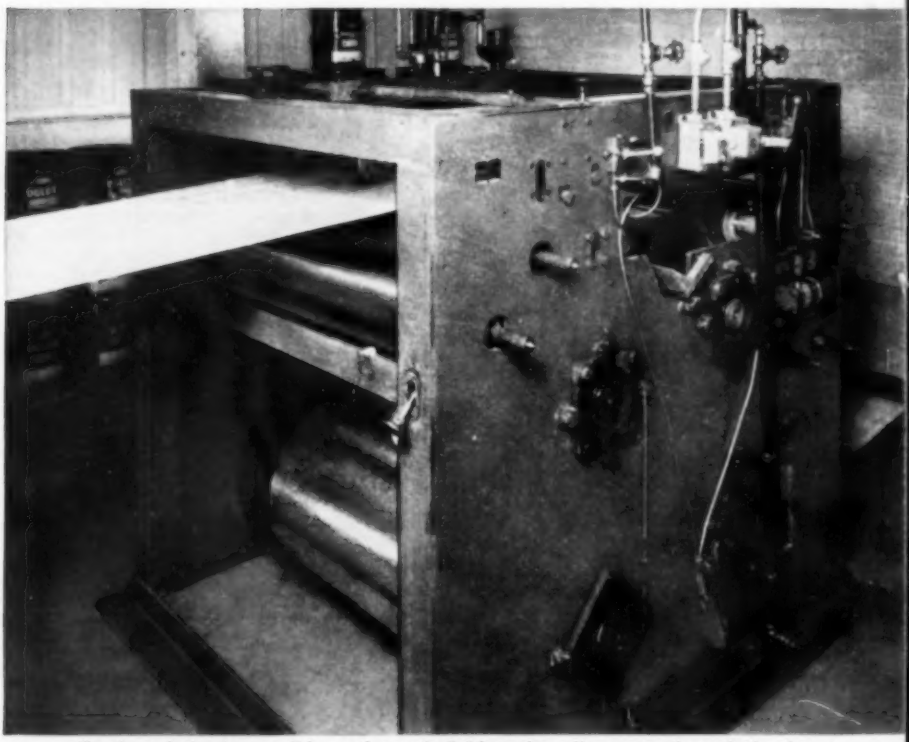
Sweet Wins Oakite Award for Service

Walter C. Sweet, Oakite technical service representative in Minneapolis since 1946, has received the 1957 D. C. Ball Award for Distinguished Oakite Service.

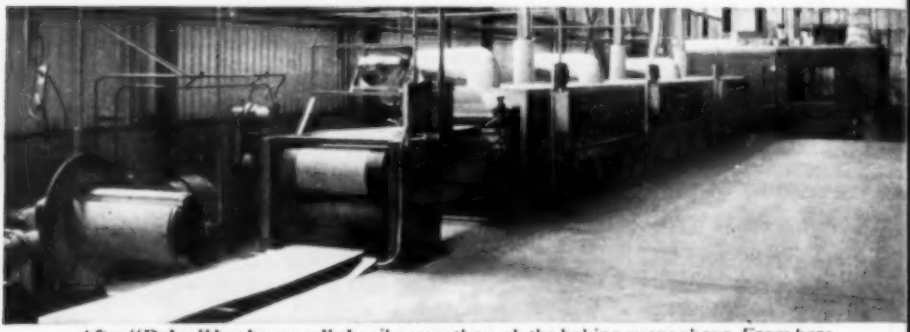
The award, named in honor of the founder of Oakite Products, Inc., pioneer manufacturer of industrial cleaning and related compounds, is given annually to the Oakite representative who "best carries forward with his customers the highest ideals of Oakite service."

Walter C. Sweet (left) receives the 1957 D. C. Ball award for Distinguished Oakite Service from John A. Carter, president.

Mr. Sweet, who was selected from the company's 227-man field organization, received the award from John A. Carter, president, at Oakite's recent sales conference in Chicago.



Precleaned aluminum coil is continuously fed into the roller coater through the slot at lower right. Roller coater handles coil stock from .010 to .064 inches thick—widths up to 36 inches.



After "Dulux" has been applied coil passes through the baking ovens above. From here it is slit to width and rewound for shipment. Customer might be any one of dozens of industries now using prefinished metal.

Photographs courtesy Reynolds Aluminum Supply Company, Atlanta, Ga.

Huge roller coating machine covers 172,800 sq. ft. of aluminum coil stock per shift with special Du Pont DULUX Finish

Yard-wide coil races through this giant machine at 60 lineal feet per minute. Flowing in a continuous ribbon from the metal treating tanks and dry-off tower, the coil gets simultaneous coats top and bottom—and in different colors.

The owner of this unique machine is a leading supplier of prefinished metal for industry and uses Du Pont DULUX exclusively. His customers make everything from awnings to house trailers to buttons, and their fabricating methods are as varied as their products. This presents the pre-finisher with a dual problem.

What Customers Demand

First, of course, he needs a finish that meets the demands of his high-capacity machine, but that finish must also withstand a variety of fabricating needs and service requirements demanded by his customers.

"Dulux" Roller Coat Enamel is best on both these counts. Here's why:

Special DULUX Formula

Du Pont specifically formulates this enamel for roller-coat application only—nothing else. This gives "Dulux" superior covering properties, hardness and flexibility. Even at maximum machine speeds, "Dulux" goes on smoothly and evenly. And the fact that different colors may be applied simultaneously proves how easy "Dulux" is to control.

Cut—Punch—Roll—Corrugate

During fabrication, "Dulux" offers superior resistance to cracking and chipping. And it performs equally well after fabrication . . . standing up to weather extremes and sudden temperature changes.

Perhaps a "Dulux" roller coat operation can speed production and lower costs for your company. For complete information contact the Du Pont sales technician in your area, or write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . *THROUGH CHEMISTRY*

Du Pont Industrial Finishes

Chemically engineered to do the job better

EDITORIALS

What Of 1958?

No awe inspiring finishing satellites were flung aloft in 1957, but it was a year of gradual improvement and development of existing materials, methods and equipment. Finishing materials manufacturers have kept pace with the ever increasing demand for speed in finishing, producing rugged, durable finshes, with new formulations to suit the product, the method of application, the speed of production, and even the physical limitations of the plant.

While the last year saw no entirely new method of paint application, old methods were improved and new techniques developed. For example, materials and equipment are now available for flow coating the finish coat on certain products where heretofore this method was used principally on undercoats, or for purely protective coats. Another example from a widely divergent field is the force drying of finishes on wood products by infrared heat.

Equipment manufacturers have contributed their share to the year's developments. To mention just a few, new spray guns that actually save paint where frequent color changes are necessary, improved automatic spray equipment, paint heaters, horizontal and vertical grain transfer machines, airless spray equipment.

Now, there would be little need for improvements and developments if it were not for the manufacturing plants which use the finishing materials, methods and equipment. They have contributed their share in reading, learning and inwardly digesting the information offered; in asking, seeking and demanding new materials, better methods and improved equipment. One group could not function without the other.

What of 1958? Who can predict what new improvements and developments will occur and in which direction they will go? Will it be electrostatic application of paint, flow coating, airless spray application, automatic spray, or perhaps a brand new method of applying paint? No one can give the correct answer. There are only two known factors in this equation. The manufacturer who applies the paint is ready, eager and waiting for improved materials, methods and equipment, and the supplier who is anxious to not only keep pace, but to exceed the demand. Put the two together and it will produce the finishing industry's finest year.

Planned Safety

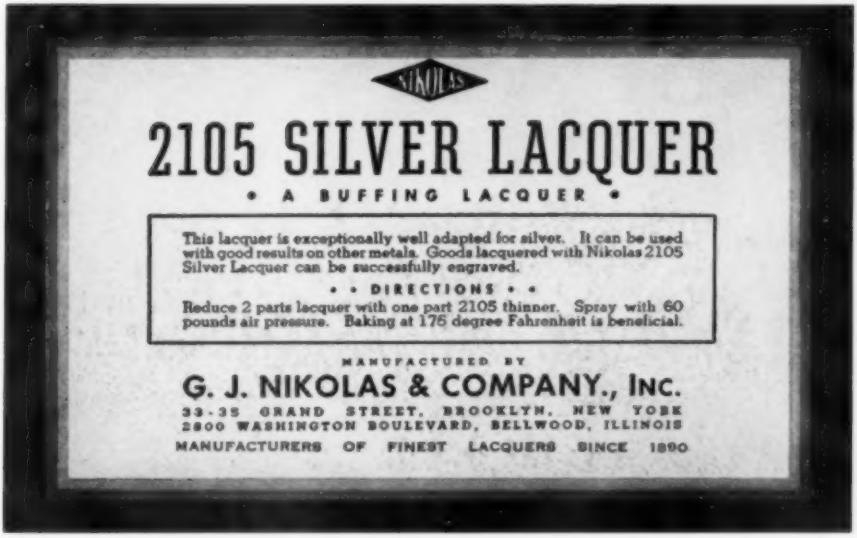
Management has found that planned maintenance saves time and money, and eliminates serious breakdowns which always seem to occur at the wrong time.

Along the same line, management will find that planned safety saves time and money, and eliminates accidents. Where planned safety is not practiced, apparently small things go unheeded until an injury occurs.

Lets look at a few examples. There is one spot where the overhead conveyor makes a rather sharp turn, and the plant visitor is warned, "Don't stand under there, sometimes they (the product) fall off." The em-

QUALITY THAT SPEAKS FOR ITSELF

This Label is used for the finest clear lacquer yet produced for — Plated Goods — Silver Nitrate Films — Holloware — Cellulose Acetate Butyrate Plastic — Vaporized Metal Coatings — and many others.


NIKOLAS
2105 SILVER LACQUER
• A BUFFING LACQUER •
This lacquer is exceptionally well adapted for silver. It can be used with good results on other metals. Goods lacquered with Nikolas 2105 Silver Lacquer can be successfully engraved.
• • DIRECTIONS • •
Reduce 2 parts lacquer with one part 2105 thinner. Spray with 60 pounds air pressure. Baking at 175 degree Fahrenheit is beneficial.
MANUFACTURED BY
G. J. NIKOLAS & COMPANY., INC.
33-35 GRAND STREET, BROOKLYN, NEW YORK
2800 WASHINGTON BOULEVARD, BELLWOOD, ILLINOIS
MANUFACTURERS OF FINEST LACQUERS SINCE 1890

- **Fast Drying**
- **Water White**
- **Crystal Clear**
- **Non-Discoloring**
- **Excellent Adhesion**
- **Mar-Resistant Hardness**

For Full Information Write—

G. J. NIKOLAS & CO., Inc.

Manufacturers of Finest Lacquers Since 1890

2850 WASHINGTON BLVD.
BELLWOOD, ILLINOIS

33 GRAND ST.
BROOKLYN, N. Y.

ployees know this and usually avoid standing in that spot location. But there are always new employees, and the old ones may forget. It's the old story, "We've been intending to put a cage under that section of the conveyor."

Then there is that unguarded well hole where the ladder takes one up to a balcony. Of course, under normal conditions it is plainly visible, and all of our "boys" know it's there. But it is dangerous nevertheless.

The pins have been lost in the hinges on one of the solution tanks in the metal washer. When the lid is normally raised, the back end of the lid flops down, splashing 210°F. solution all over the one who lifts the lid. Of course, the man who "takes care" of the washer knows the hinges are useless, but other people do not, and even he could forget.

Then, what about protective shields of some sort around dangerous operations such as grinding, chipping, welding, etc. These shields are especially needed where such operations are performed adjacent to an aisle where people walk. It may save an eye.

There are many others that could be listed, all of them, "Things we've been intending to fix, to correct—just never have gotten around to it". Planned safety means going around the plant looking for trouble, then doing something about it.

Your Finishing Department

How much importance is placed on the finishing department in your plant? Is it just a necessary evil, a means to an end, a place where people come each day to perform their appointed tasks according to a time worn tradition? In this jet and rocket age, is your finishing department still operating on a horse and buggy method basis? These are searching questions that should be asked at the beginning of a new year and a new era. The answers are not always easy. The solution is often obscure.

But one thing is certain, to continue on believing only in the past is bound to prove fatal. Whether or not you believe it, your finishing department is a huge factor in contributing to the successful sale of your product, and the development of your company's reputation. It occupies valuable plant space. It represents an investment in equipment, and last but by no means least, it certainly enters into the cost of production. The next two questions are obvious. Is your finishing department as efficient as it should be? If not, what are you doing about it?

Well of course, the first step is to take the patient's temperature by making an intensive cost analysis. Then to analyze the figures to find out where the trouble lies. When this has been determined, then set about to introduce corrective measures to bring the department up to full efficiency. Two things should be borne in mind, namely don't tamper with the quality of your product, and there are really only two areas of cost reduction—improved equipment, materials and methods, and the reduction of waste in labor and the materials used.

The transition from the inefficient to the efficient may not be easy. It may require some time. It may entail a sizable capitol investment that calls for taking the cure in broken doses. It may require extra training of new operators and a refresher course in modern thinking for the old heads. No, it will not be easy. But with all of the apparent handicaps, the seat of the inefficiency will have been determined. Based on this knowledge, at least a start can be made to correct it.

MAR-PROOF LACQUER

SCHAEFER'S Mar-Proof Lacquer is a performance-proven finish that cannot be easily marred or scratched.

It's tough—tougher than the ordinary lacquers; meets the most critical requirements of current production.

Made in either clear gloss rubbing or satin finish, it produces a splendid transparent coating of full depth on maple, walnut, gum, mahogany and other cabnet woods.

Economical; gives plenty of coverage and dries quickly. Our Mar-Proof Lacquer Sealer is recommended with it for a first-coater.

Working samples furnished without obligation. Write for them!

THE SCHAEFER VARNISH COMPANY, INC.
Louisville, Kentucky

SCRATCH-PROOF

MAR-PROOF

STANDS LOTS OF ABUSE

LETTERS from READERS

Cleaning Small Parts

We are interested in finding a source for cleaning small parts, prior to finishing them with a protective coat of lacquer or varnish.

We are interested in some miniature idea of the large cleaning machine that has stages of first cleaning in a hot alkaline solution; secondly, water rinsing; thirdly, drying and fourthly, in some cases of a protective oil, mist coating.

We know that there are many of these larger machines on the market, too big and too costly for our needs. We are interested in a smaller machine and for smaller production.—*P. Products Co.*

Names of cleaning equipment manufacturers given.—*Editor.*

Many Thanks!

We wish to thank you for the very excellent magazine which comes in to us each month and contains some excellent ideas. This is very much appreciated.—*Huttig Mfg. Co., Muscatine, Iowa.*

Handle Painting Machinery

It has been suggested that we contact you for information as to what company or companies manufacture handle-painting machinery. If you have this information at hand, please forward it to the attention of the writer, as we would like to secure more information on this particular type of machinery.—*Brush & Broom Company.*

Try the Oglesby Machine Co., 704 Craighead St., Nashville, Tenn.—*Ed.*

Masking Indented Letters For Spray Painting

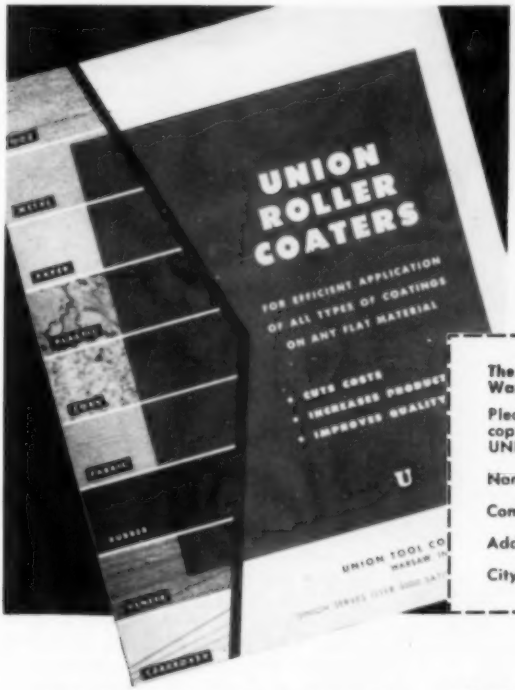
I don't know just how long ago, but at some time you had an article on metal masks for masking indented letters for spray painting. Could you either send me a copy of the article, or the name of the manufacturer of the masks.—*B. Co.*

Tear sheets of article supplied; also names of manufacturers of masks given.—*Editor.*

Air-Dry Wrinkle Touch-Up

On page 92 of the November issue of *Industrial Finishing,* we noticed that a firm calling itself the Sprayon Products, Inc., wrote you asking for the name of one of your readers who had inquired about an air-dry wrinkle touch-up.

We are manufacturers of evaporative coolers, some of which are sprayed with a wrinkle baking enamel. When these coolers are exported from the country, they sometimes require some extra touch-up work from the abrasion caused by carton rub. We would like to learn the address of Sprayon Products, Inc., so we



Learn why UNION ROLLER COATERS are first choice!

The Union Tool Corporation
Warsaw, Indiana

Please send me without obligation a copy of your illustrated booklet titled UNION ROLLER COATERS.

Name_____

Company_____

Address_____

City and State_____

● Make sure before you invest in another roller coater! Get this illustrated booklet on Union Roller Coaters . . . for the complete details on features, sizes, specifications and applications. See for yourself why Union Roller Coaters are first choice throughout industry . . . wherever fluid substance is applied to a flat surface.

Union Roller Coaters are available in four models . . . to meet the widest variety of coating applications. They are ideal for low-cost coating of paint, lacquer, compounds, wax, oil, glue, adhesives and other substances on metal, veneer, plywood, fabric, paper, rubber, plastic, cork and other surfaces.

Union Roller Coaters feature an exclusive automatic safety device that ends crippling roller coater accidents. This safety feature is standard on all heavy-duty Union Roller Coaters at no increase in cost.

Write today for complete details on this profitable line of versatile Union Roller Coaters. Request Union Roller Coater Bulletin.

THE UNION TOOL CORPORATION
WARSAW, INDIANA

818 N. Detroit Street

might contact them regarding the aerosol packaged air-dry wrinkle which we believe we might be able to use.—*Purchasing Agent.*

It is Sprayon Products, Inc., 2071 E. 65th St., Cleveland 3, Ohio.—*Ed.*

Gold, Brass, Silver Plated Finish Effects

I am a subscriber to *Industrial Finishing* Magazine, and note on page 92, November 1957 issue, about metallic finishes to produce same effect as gold, brass and silver plated finish. Kindly send me the name and address of this firm who can supply same.—*C. F. F.*

Names and addresses of several manufacturers given.—*Editor.*

In your "News and Comment," Vol. 4, No. 11, dated November 25th, 1957, you mention that some company was looking for a gold, brass or silver plated type of finish for use over pure zinc and parts soldered together. We may be able to help supply a material for this purpose and would appreciate receiving the name of the people who are interested, or having you suggest they write to us.—*Duralac Chemical Corp.*

"Flow coating is . . . . well, the best explanation is there: clean, smooth finish, no runs or tear drops on corners or the low edges . . . !"

Strip Coating

In "News and Comment," Vol. 4, No. 12, dated December 23, there is an inquiry for a strip coating to protect sheet metal diaphragms. Recently we developed a new and improved line of strip coatings, and would therefore appreciate it if you would send us the name of the inquirer, so that we may contact him.—*Toledo Paint and Chemical Co.*

Circulating System on Dip Tank

A customer of ours would like to install a circulating system including filter on a dip tank. The tank holds approximately 550-gallons and is charged with a medium oil alkyd red oxide enamel. They finish large beams for prefabricated buildings. We would appreciate receiving information on who could set up such an arrangement.—*Paint Mfg. Co.*

Several firms suggested.—*Editor.*

Non-Toxic Paints

This is in reference to a request for non-toxic paints for childrens' toys which was in the December issue of "News and Comment," Vol. 4, No. 12. We manufacture various types of lacquers that are used on toys. Our materials are all non-toxic. For use on flame-treated polyethylene we would suggest our "Rez-N-Lac S." We are enclosing herewith a techni-

STEEL FABRICATOR INCREASES PRODUCTION WITH SPEE-FLO PACKAGE UNIT

PROBLEM: To finish an additional 15 tons of fabricated steel daily with no increase in facilities or personnel.

SOLUTION: Installation of Spee-Flo "Little Chief" Portable Hot Spray Unit.

The Offenhauser Company, Houston, fully expected to add to its spraying area and paint crew in order to finish ⅓ more products daily. However, with Spee-Flo Portable Paint Heaters, they handled the increased production *without adding to their overhead.* Overspray is greatly reduced, and they enjoy big savings in solvent and coating materials.

The same advantages and benefits result with any type of finish when it is hot sprayed. See what it can do for *you.*

WRITE for free booklet,
"Why Hot Spray?"

SPEE-FLO

Dept. IF-35, 720 Polk Ave., Houston, Texas

7331

cal data sheet which describes this product plus related items.—*Schwartz Chemical Co., Inc.*

Forced Air Drying

Can you furnish us with any data regarding the "forced air" drying of boats such as described in our literature. You will note that the boats are manufactured of fir and mahogany plywood, completely wooden boats. We will appreciate any information you may be able to furnish us.—*Boats, Inc.*

Infrared heat has been successfully used in force drying finishes on plywood wall paneling and prefinished wood flooring, and may solve your drying problem. Communicate with the firms whose names and addresses are mentioned in our letter.—*Associate Editor.*

Zipper Wire Enameling Machine

We are interested in purchasing in the U.S.A., for one of our foreign clients, a zipper wire enameling machine. This machine is used by the zipper or slide fastener manufacturers for color coating the finished zippers. We will appreciate the names and addresses of firms who are manufacturing this type of equipment.—*Export-Import.*

No information. Can IF readers supply?—*Editor.*

Restoring Fine High Gloss

We are interested in restoring the fine high gloss on vinyl tile flooring, which has become scratched. The ordinary waxing does not help, in fact, waxing makes it worse. Can you recommend a product, or the manufacturer of a product, for the purpose. —*W-C.*

Some suggestions offered.—*Editor.*

"This is the part of the Creative Design Process my wife doesn't understand."

Dirty Lacquer Thinners

Please furnish us with the names of concerns who clean dirty lacquer thinners for reuse. Our dirty thinners contain lacquer sealer and pigmented lacquer basecoats.—*Furniture Company.*

Names and addresses furnished.—*Editor.*

Pre-Finished Hardboard

Could you please give us the names and addresses of some firms that specialize in the manufacture of a pre-

'BARTELS'

Bartels Industrial Finishes

For Better . . . Research—Quality—Service

GORDON BARTELS CO., ROCKFORD, ILL., LANCASTER, PA.

"Got a date with the widow again. Need a retread job, eh?"

finished ⅛-in. and 3/16-in. hardboard in a walnut or mahogany wood grain pattern? As a subscriber for some years, we appreciate help given on past inquiries.—*H. H. W.*

Information supplied.—*Editor.*

Plating Baby Shoes

What information have you on plating baby shoes? A concern in Chicago furnishes equipment for the purpose, but we do not recall their name.—*Fit. Enamel Co.*

Names of some firms suggested.—*Editor.*

Stainless Steel Coating

We are interested in a new process for coating stainless steel. This coating withstands high temperatures, corrosion and abrasion, and can print name plates and circuit diagrams with these properties.—*Product Dev.*

Name and address of the above concern will be furnished on request. —*Editor.*

Library and Lab. Furniture

We are following with great interest the article by Mr. Horne on "Quality Finishing in Library and Laboratory Furniture." Would it be possible to obtain five reprints of this article?—*A. B. S. Co.*

We believe that Mr. Horne's company has had reprints made of his article. Their street address in Philadelphia is 1715 N. 10th St.—*Editor.*

Do Wood Graining on Table Tops for Us?

Will you please mail us the name and address of a concern that has the equipment to reproduce wood graining on table tops, ⅛-in. thick Masonite, on a production basis? If necessary, we would furnish the Masonite material.—*Alexander Mann.*

Firms in position to do this work should communicate with this publication.—*Editor.*

Thin Oil Finish

Relative to the thin oil finish for walnut furniture, mentioned on page 109, December issue, the Lilly group of companies (Indianapolis, High Point, Gardner) are also supplying concerns with the thin oil finish on walnut.—*Lilly Varnish Co. of Mass.*

FINISHING PROBLEMS?

Solve them with BoGard® FINISHES

PROBLEM— *Davey Compressor Co.,* Kent, Ohio, moves compressors from assembly line to paint shop where first prime coat is applied. Compressors then go on 72-hour "run in" test. At conclusion, they receive 2nd prime coat and finish coat. Big problem was to secure primer that would adhere firmly to bare metal, provide weather resistance during outdoor test period and knit together firmly and quickly with subsequent 2nd prime and finish coats.

SOLUTION—Body Bros. P161 Red Primer (also available in gray and yellow). This proved effective for both air drying and baking. Weather resistance excellent. 2nd prime coat adhered perfectly. Finish coat applied in 15 minutes. No absorption of finish coat into primer. Excellent adhesion and top coat gloss. Flexible, durable finish with extraordinary film length. Substantial time and cost savings. Improved appearance. AA-6691

This is one of thousands of finishing problems solved by Body Bros. We will be happy to consult with you at your convenience. Write for Bulletin LL-4918A.

BODY BROS. incorporated
BEDFORD, OHIO

Use Paint Applicator To Make Many Tests

IN OUR COATINGS research laboratory, we have found one of the most useful pieces of equipment for testing paints to be, of all things, a film applicator.*

A film applicator, of course, is a device for depositing a uniform paint film of pre-determined thickness onto a substrate. Several types of applicators are available, some with a fixed film thickness and others with provisions for varying the film thicknesses. One can also select applicators which deposit films of different widths.

Now what does this film applicator do? Well, by the simple operation of drawing down a film of paint on a flat panel, it is possible to examine color, gloss, dry-time, hiding power at a glance.

If draw-down is made on a hiding power chart (a card which presents a background of contrasting colors) a graphical illustration of hiding power is immediately visible. If the draw-down is made on a metal panel typical of the metal being used by the finisher, then it affords a panel which is useful for evaluating various film properties, such as: hardness, flexibility, adhesion, etc.

Baking enamels can be checked in this manner as well as air dry materials. A very important point is that, for the results to be significant, the thickness of the deposited film must be very close to

*Product of Gardner Laboratory, Inc.

If it's a finish for
METAL
WOOD
RUBBER
FABRIC
PAPER
PLASTIC
you'll do well to get in touch with us.
RAFFI and SWANSON, Inc.
99 EAMES STREET
WILMINGTON, MASS.
From a 5-gallon pail to a tank truck shipment call
RAFFI and SWANSON, Inc.
New TWEED is here
— the multi-color decorator finish that sprays on easily, stays on for good. Write for Bulletin 115.
K-S

FICTION and FACT

FICTION: Paint Overspray Control Requires Complicated and Expensive Maintenance Procedure.

FACT: An R P Paint Arrestor Equipped Booth Can Be Changed In Minutes By Inexperienced Personnel.

RP PAINT ARRESTORS

Photo Courtesy Burnaby Blinds Ltd., Winnipeg, Canada

Inexpensive R P Paint Arrestors are easily replaced in a short time to provide like-new paint overspray removal efficiency, with minimum down-time, at a fraction of usual maintenance costs. Economical original installation, too—and adaptable to almost every type operation, R P Paint Arrestors can cut costs, increase production in your booths, too. Write for information.

RESEARCH PRODUCTS *Corporation*
Dept. 34, Madison 10, Wis.

the film thickness which will be applied by the paint user in actual plant production.

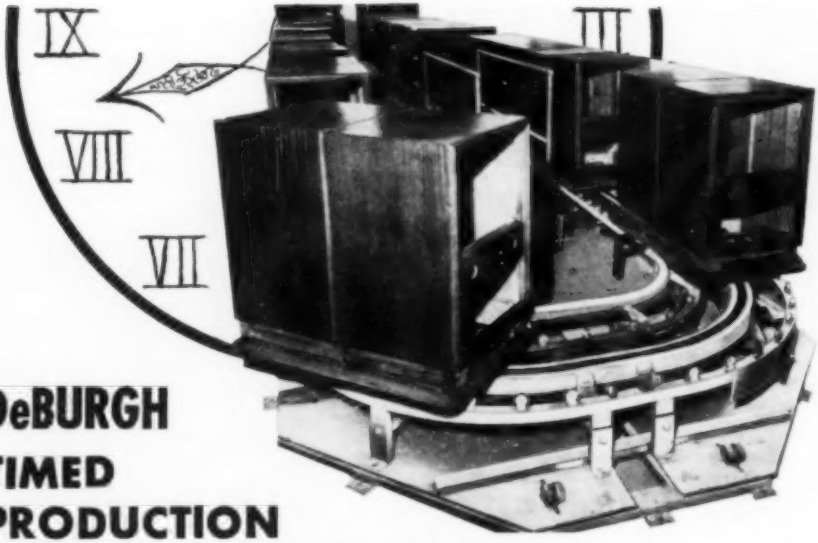
A quick comparison between two paints can be made by depositing the two materials side by side, simultaneously. For this reason, the film applicator can be extremely important to the paint user for making batch-to-batch checks of the products he uses. New shipments can be quickly compared with retains of the previous batch, or with a standard sample. Also, these draw-downs can be kept as a permanent record.

A useful accessory for the film applicator is a combination of a vacuum pump and suction plate. By means of the vacuum created at the surface of the suction plate, the panels or charts are held firmly in place, which generally results in a more uniform film deposit.

As is true of all testing devices, the film applicator is not a cure-all for paint testing. Some paints actually require the atomization provided by a spray gun in order to develop their true gloss and color; however, the great majority of industrial coatings do lend themselves to the draw-down process. Your supplier will gladly furnish the necessary information for you to decide whether this simple, quick, inexpensive testing procedure is applicable to your products.—*Phil Grossman.*

Universal Paint Names E. J. O'Brien

Edward J. O'Brien has been appointed technical representative for Universal Paint & Varnish Inc., Bedford, Ohio, manufacturers of industrial finishes. Closely identified with the paint industry since 1943, Mr. O'Brien's background covers both laboratory and development work, and technical sales experience.



DeBURGH TIMED PRODUCTION

ALLOWS FURNITURE FINISHERS TO

ATTAIN A LOW FINISHING COST PER UNIT
MAINTAIN THAT COST . . . AND ACTUALLY IMPROVE QUALITY

That's because the DeBurgh "continuous power" concept produces a steady flow of production from the cabinet room to the shipping room in a timed operation that eliminates non-productive pushing, pulling, lifting and shoving. Thus it is 35% to 50% or more efficient in reducing labor than a non-powered or gravity type conveyor.

We challenge you to compare and learn the facts for yourself. Your inquiry entails no obligation, expressed or implied.

"DESIGNED BY A FURNITURE MAN FOR FURNITURE MEN"

WRITE FOR BOOKLET

Free booklet — free engineering service — showing what we can do for you, your plant, your product, your production and your techniques.

DeBURGH | CONVEYORIZED FINISHING SYSTEMS

10 So. Eleventh Ave., Evansville 4, Indiana

ROCKFORD VARNISH

R/V

ROCKFORD, ILLINOIS

IT FIGURES

Sure it does — it figures that this kid likes fresh air and sunshine. It figures, too, that you can solve a lot of finishing problems with R/V products. Our experienced laboratory and plant team does a wonderful job of producing first-class industrial finishing materials. *You* can do a wonderful job of making your products look better than your rival's, when you let this R/V team help you. *That* figures, too . . .

MANUFACTURERS OF PROTECTIVE AND DECORATIVE FINISHES

QUESTIONS and ANSWERS

Finishing Spun Aluminum Lamp Shades

We are in the process of finishing some spun aluminum lamp shades and have run into a number of problems on which we would like advice. Any information you can give us regarding suppliers whose products will help solve these problems will be appreciated.

We want to be able to buff or polish these aluminum shades, and leave them with a bright satin finish. Our difficulty has been that we are not able to get the scratchy lines in the surface.

We have also run into a problem of cleaning and degreasing these shades prior to painting. Everything that we have tried so far leaves white spots on the surface.

We have been able to get a good brass finish on the outside of the lamp, but when we try to spray the inside with white enamel, we are bothered with overspraying, marring the already finished brass surface. We would like some information on masking these shades so that the exterior can be protected once it has been finished.—*J. C. W. Co.*

It is difficult to answer your questions without knowing the size and construction of the shades, or just how much flat surface is involved. I do not understand how buffing could produce the "scratchy lines" you refer to. Perhaps you could use anodized aluminum for these members. This would give a bright finish and still not a highly polished surface.

As to cleaning, have you tried vapor degreasing? If you have, then I would suggest that you write any of the chemical companies who advertise in *Industrial Finishing* magazine. Perhaps they can suggest a cleaning method.

There are only two types of masks for surface protection, one is masking tape or paper held in place by masking tape, and the other is peelable coatings. It would be impossible to even suggest a masking procedure without knowing the shape, design and size of the parts, the area to be protected and its relation to other parts.—*Bardin.*

You will indeed have difficulty in producing scratchy lines in aluminum with a buffing or polishing operation. These lines must be cut with an abrasive, and the best place to do this is while the shade is in the spinning lathe. A block of wood of sufficient length to span the entire shade is covered with Aloxite Cloth No. 60 or coarser, and placed firmly against the spinning shade. As soon as the lines are of sufficient imprint, the block is removed. If it is necessary, move it to reach around a convex curve; it should be either rolled around the contour or lifted off and replaced. Sliding the tool will give a barber-pole effect. Where concave areas or grooves must be reached, a tool to fit these contours will be needed.

Another type of tool to produce such scores can be made by clamping 10 or 12 pieces of hack-saw blades together with all teeth parallel.

Your white spots after cleaning are

CLAREMONT

The Country's Largest manufacturer of *Natural and Synthetic* . . .

Flock

announces

a change of name from

Claremont Waste Manufacturing Co.

to

CLAREMONT FLOCK CORPORATION

CLAREMONT, NEW HAMPSHIRE

NEW, EXPANDED MANUFACTURING RESEARCH and LABORATORY FACILITIES

QUALITY CLAREMONT FLOCK

Over the years, the technological demands of industry have caused this company, in its development and expansion, to devote its operations exclusively to the conversion of cotton, rayon, nylon and other synthetic fibers into decorative and industrial flock. The new name, therefore, is logical and appropriate.

Personnel, policies, facilities and location remain unchanged. Our aim, as always, will be to strive continually for still better quality of product and service to the many customers and friends in the plastics, packaging, paper, rubber, textile and industrial finishing fields who have helped to make this company the country's largest producer of flock.

either residue of tripoli used in polishing, or the result of cleaning in a caustic solution. Consult manufacturers of cleaning materials, any of whom can advise a cleaner adaptable to your equipment, which is both safe and satisfactory.

You are following correct procedure by spraying the brass finish on the outside first. However, I doubt if masking will help the overspray problem. Unless the piece is very small or complex, careful mounting and spraying should do the trick. The shades should be mounted so they revolve, placing them in the booth where the air flows directly into the fan. The air to the spray gun should be reduced to the lowest possible pressure. The width of the spray should also be kept narrow. The gun should be aimed at the far inside surface, triggering and tilting just enough to get coverage. Use a small gun and pressure tank, as a cup will interfere with aiming. May require a bit of skill, but it can be done.—*G. C.*

J. E. Lowe; DuPont Finish Div'n.

E. I. du Pont de Nemours & Co., Finishes Division, announces the appointment of J. E. Lowe to Assistant Regional Industrial Sales Manager in the Chicago Region.

Mr. Lowe has represented Du Pont in the Industrial Finishes field in both the eastern states as well as in the middle west, covering their entire line of industrial finishes products. For the past four years he has been active in the middle west as Industrial Field Manager.

Celucoat; New Research Lab.

The Celucoat Corp. of St. Louis, Mo., plans to proceed with construction of a new separate research laboratory for use in development of special coatings. This will leave the control work and production without the interference of research which has been carried on in the present laboratory. The contract has been let and ground has been broken.

Checks; Pin Holes in Desk Tops

We are manufacturers of office and home furnishings, and have been having trouble with our finishes checking and pin holes appearing in the tops. In your *Industrial Finishing* magazine of June 1957, you have an article on, "Pin Hole Trouble," page 120. The article suggests using "Liquafill" sizing.

Most of our desks are made with walnut and have a moisture content of 16% when they go to the finishing shop. In the finishing shop we use one coat of hard sealer and two coats of hot sprayed lacquer, or three coats of cold sprayed lacquer. We are located in a concrete building near the waterfront.—*A. S. H.*

I believe you will find that all of your finishing troubles stem from excessive moisture content. Apparently, the plywood is picking up moisture while in storage as it does not seem reasonable that the wood would contain 16% moisture when it was laid up. You will have to find some means of drying all of the wood and arrange to keep it dry until after it is finished. Wood, to be finished, should have between 7 and 9 percent moisture, and certainly not over 9%.

What you refer to as pin holes are really blisters caused by the excessive moisture lodged in the pores of the wood escaping through the lacquer film. Of course, the checking is due to the wood shrinking beneath the finish. As the finish is adhered to the wood, it cannot withstand the strain of movement, and thus the finish checks.—*P. C. B.*

You state that you are finishing wood that has a moisture content of 16 percent. This alone could be causing all of your troubles. Get your

ANOTHER PRODUCT OF
MARSON RESEARCH
AUTOMOTIVE · MARINE
INDUSTRIAL
HOUSEHOLD

NO FISH-EYES WHEN YOU START WITH

Smoothie

the *safe* paint additive for refinishing all silicone polished surfaces

***prevents* FISH-EYES - *increases* GLOSS**
***improves* FLOW-OUT**

Used by the automotive industry since 1945, Smoothie is now available for furniture refinishers and anybody using paint for refinishing wood or metal surfaces. Just one dropper-full of Smoothie in every quart of reduced paint eliminates fish-eyes . . . improves flow-out . . . increases gloss. Completely safe for all finishes and colors, lacquers or enamels. One ounce of Smoothie conditions 6 to 7 gallons of ready-to-spray paint. Once you try Smoothie, you'll wonder how you ever got along without it!

No. 231 1 oz. bottle with enclosed dropper (conditions 7 gals. of paint) $ 2.00

No. 232 2 oz. bottle with enclosed dropper (conditions 14 gals. of paint) $ 3.75

No. 233 8 oz. can with Mars-O-Matic Dispenser (conditions 56 gals. of paint) $ 13.50

MARSON CORPORATION
REVERE 51, MASS.

ORDER DIRECT — Send check or money order
(Money-back Guarantee if not completely satisfied)

DISTRIBUTOR INQUIRIES INVITED

moisture down to below 10 percent and see if most of your difficulties don't disappear.

Pin holes in properly dried walnut are rare. When they do occur, the trouble can be traced to either poor filler or poor filling procedures.

The checking that is apparent in the panel could originate from excess moisture. It would be a good policy on this trouble to get laboratory tests run on both the sealer and lacquer to determine the hardness of these materials. A cross-hatch test shows the film to be very brittle and to have poor adhesion.—*H. H.*

Metal Product Masking

We have a problem in masking a metal product we are starting to manufacture. The lower two-thirds of the product is one color and the upper one-third, a contrasting color. Because of some protruding parts on one side, paper held in place by masking tape is not practical as the paper is inclined to tear and thus allow overspray to contact the surface to be protected. Because of these same protruding parts which also have some rather deep recesses, a peelable coating mask would be most difficult to remove.

Do you have any suggestions which might aid us in the masking of these products?—*E. P. Co.*

You do not state whether or not the protruding parts extend the entire height or width on one side of the product. We assume that they do. If this is true it may be necessary to use a double mask, at least on the side containing the protrusions.

One way to mask this product is to obtain a clear plastic sheet of sufficient size and shape to fit around the surface to be protected. This plastic sheet would be held in correct position by pressure sensitive tape. The plastic sheet would fit over the protrusions without danger of tearing. The thickness of this plastic sheet should be sufficient for repeated use as a mask, that is, about the same thickness as the "windows" in the card pockets of a wallet.

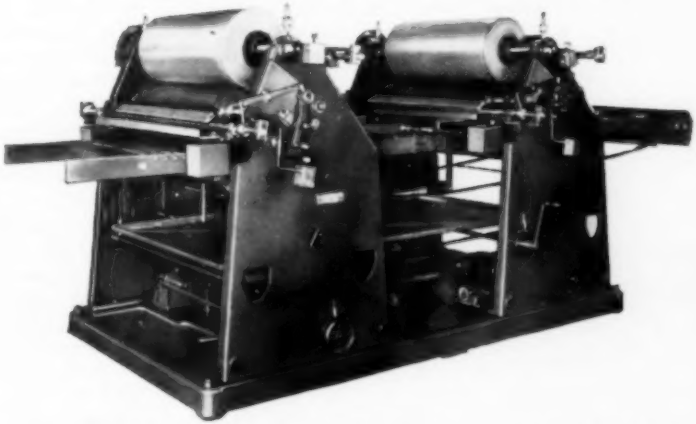
As the plastic mask is removed on each cycle (before the finish is baked) it should be wiped off with solvent. If this is done immediately upon removal it will not be difficult to clean. Then it will be ready for re-use.

You will also find that the plastic mask can be applied more readily to a heated surface. Install one or possibly two short banks of infrared lamps just ahead of the masking station to raise the metal temperature to 90° to 100° F.

Now at the location where the protrusions occur there will be one or more places where the plastic mask cannot possibly make full contact with the metal surface. In these places it may be necessary to resort to a wide, say 2-in. or 3-in. short strip of masking tape to protect the protruding surface and that immediately adjacent to it. It may be expedient to obtain die-cut masking tape of a size and shape to fit the areas. This tape would be applied directly to the metal, and the plastic sheet mask would fit over the tape. Then if the operator sprayed in the opposite direction from the opening caused by the protrusions, there would be little chance of overspray contacting surfaces to be protected.

You should advise your supplier of plastic sheet as to the type of paint and solvents you are using so that he may furnish a plastic which will not be attacked and rendered useless in a short time.—*Mr. X.*

Two-Color, One-Run Graining Is Possible Only With The HAMANT DH-128 Grainer



Simulate The Most Costly Woods, The Most Beautiful Fabric Patterns, The Veining In Marble, On Wood, Plastic Or Metal With This Revolutionary New And Versatile Graining Machine.

Perfect registration on sheets up to 48 inches wide at speeds of 25 to 75 feet per minute makes this model the ideal Grainer for furniture manufacturers.

Every Hamant Grainer is fully guaranteed and installed under the supervision of a factory-trained serviceman at no extra cost.

Write today for literature on this and other Hamant Grainers. If you have a special problem, we will design a Grainer to your specifications.

For information write or phone

Hamant TOOL CO., INC.

502 WARREN ST. • *Michigan 4838* • DAYTON 9, OHIO

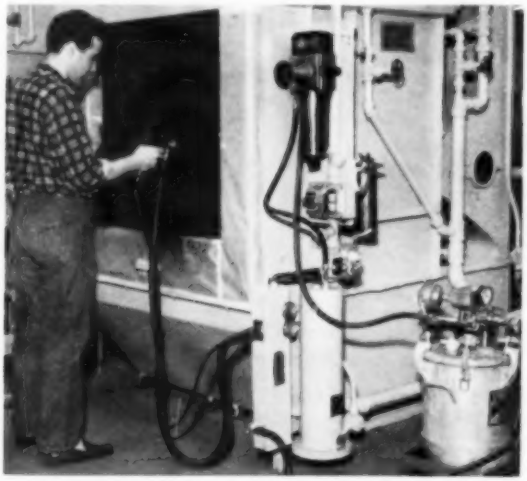
In Canada: Cooper & Horton, Ltd., Toronto, Canada

Successful Paint Sales And Service

IN ANY ORGANIZATION that is maintained for the purpose of manufacturing and selling organic finishes for industrial use, you will find many diverse personalities in the sales personnel. Listening to these individuals indulge in a business conversation will often give you a clew as to who are the more successful salesmen—and those who border on mediocrity.

Human beings are mostly all alike in many respects. One does not need to be a psychologist to note that we all tend to find reasons and excuses for our failures. Salesmen are also addicted to this basic trait. The representative who complains most about lack of cooperation from management, poor quality in formulations, high prices of his product in comparison to competitors, etc.—this chap is most often the least successful in the group.

Of course, even the best salesmen will register a complaint of this nature in some isolated instances. Obviously management, technical and sales phases are not always perfect and many situations arise which deviate from what is so often called the "average." However, more generally, a salesman's justification for his failure is in inverse proportion to his success. You often wonder why the more mediocre salesmen complain about new potential customers who have rock-bound loyalties to their present suppliers, while at the same time these same



HOT SPRAY UNIT WITH THREE YEARS OF UNINTERRUPTED SERVICE

This THERM-O-SPRAY Heater is now installed at Western Electric Company, Springfield Gardens, L. I., N. Y., together with six *new* THERM-O-SPRAY units.

There is no pump . . . nothing to wear out. There is no gasket or packing to leak.

Heat transfer is synchronized with spraying. When spraying stops, heating stops. Paint is not circulated; is heated only as used. Result: No overheating of paint . . . no clogging.

During spray interruptions hot air circulation by pressure in a jacketed hose keeps the paint hot up to the gun.

Write for booklet published by

THERMOSPRAY COMPANY, Inc.
60 EAST 42ND ST. NEW YORK 17, N. Y.

***Canadian Agent:* SCANDIA SUPPLY CO., LTD.**
376 Craig St., W., Montreal, Canada

salesmen are losing present accounts "because of quality, price, delivery, etc." It is amazing to note that one representative has all of the "wrong" accounts in his territory.

A salesman's lot is not an easy one. He must work before the sale and after it to develop, in his customer's mind, a reputation that his service and cooperation will be forthcoming at a moment's notice. In addition, his knowledge and technical usefulness must be on the increase.

There are many reasons why customers change suppliers; these reasons are not confined to lower price, better deliveries, etc. The medical profession long ago learned that patients feel improved when the doctor is available to hold their hand. So too, do many users of industrial finishes operate with confidence when they feel that the technical representative of the lacquer or enamel manufacturer is available with the right answers when problems arise.

A motto which someone once declared is an ideal one to follow, is, "In order for a sale to be deserved the customer must be served."—*R. C. Fox.*

La Gala New Sales Representative for Landau

Mr. Rudolph La Gala, laboratory chemist and technician for J. Landau & Co., manufacturers of lacquers, corrosion coatings, finishes, vinyls, synthetics, etc., since 1920, has been appointed sales representative for both the New Jersey and Pennsylvania territory, it was announced by Mr. George Landau, president of the firm.

Mr. La Gala's ten-year experience will serve him in good stead in a technical advisory capacity with his present accounts.

Binks Holds Award Dinner

More than 300 employes of the Binks Mfg. Co., Chicago, attended the company's first annual service award dinner held recently at a Chicago hotel.

All employes having five or more years of service with the company were invited to the dinner. Employes received gold medallions inscribed with their names. Of these employes, 29 wore special boutonnieres signifying 25 or more years of service.

Kranz, Stasch and Braun receive special medallions as the Binks Company's most senior employes. Mr. Burke B. Roche (right), president, makes the awards.

Highlights of the evening was a special medallion presentation ceremony in honor of the company's three most senior employes, Chester R. Kranz, 45-year employe, William F. Stasch, 40 years and Carl J. Braun with 34 years service. Burke B. Roche, president of the 64-year old spray painting and water cooling tower equipment manufacturing company, made the presentations.

Kranz, who joined the company in 1912, is currently manager of the Water Cooling Division. Stasch joined the company in 1917, and today is supervisor of the light assembly department. Braun is Traffic Manager. He joined Binks in 1923.

O'Brien Corp. Adds Salesmen

The O'Brien Corp., South Bend, Ind., announces the appointment of two new men to its nationwide sales organization. They are Mr. Clarence R. Claeys and Mr. Everett R. Patterson.

Mr. Claeys will service the O'Brien dealer organization in northeastern Ohio, including Cleveland and Mr. Patterson will cover an area of southern Louisiana and Mississippi, including New Orleans.

Comparative Hiding Power of Paints

ONE OF THE more common complaints among users and makers of lacquers and enamels is that of the hiding power, or lack of it, in a given coating material. Accurate methods of measuring hiding power are in practical use by control laboratories, but some misused or misunderstood determinations are to be found among users of industrial finishes, and these tend to counteract the effects of correct control procedures.

At this point it would be a simple matter to delve into the theoretical aspects of wave lengths of light and the principles of absorption, reflection and refraction, with the subsequent emphasis on the effect of hiding. However, there are many more practical considerations which enter the picture and a little more understanding here would do much to alleviate some misconceptions.

The user of industrial finishes will normally pass judgment on the hiding effectiveness of a material by using regular spray techniques. This is natural to expect and, from the sprayer's viewpoint, it is the best method. For most applications this cannot be denied, but when one material is being compared with another this procedure comes a cropper. It is very easy to go too far either way in thinning or reducing an enamel or lacquer. As a result, uniform film thickness is not obtained and uniform reliable results are difficult to evaluate.

Everyone who has used any type

SCHWEITZER Automatic Spray Machine

...for low cost painting of small parts — up to 6000 per hour.

■ Called the "chain-on-edge, automatic spray machine", parts are routed through the booth on revolving spindles attached to a variable speed roller chain. Easily adapted to automatic or semi-automatic loading and unloading, the chain can be used to convey parts from other manufacturing operations, through the oven, and then to shipping.

IMPORTANT FEATURES

- Variable speed conveyor.
- Independently rotated parts spindles.
- Auto or semi-automatic loading & unloading.
- Flexible chain plan form to suit space conditions.
- Syncronized Spraying heads.
- Built-in drying ovens available.
- Choice of dry or water wash booths.

If you need high volume, low cost spraying equipment for small parts, investigate this SCHWEITZER development. *Send for full details,*

Schweitzer Equipment (SECO) Company

3704 RIDGE ROAD • CLEVELAND 9, OHIO

of paint knows that black coatings exhibit better hiding than white materials. It would therefore not enter anyone's mind to compare the hiding power of black versus white. However, on many occasions it has been found that pure white lacquers or enamels (that is those made from straight titanium pigments) have been compared in hiding power to a material in which a minute amount of black, blue or other tinting pigment has been added . . . .

In control laboratories numerous methods are in use for accurately determining the hiding power of different paints. Black and white charts for visual comparisons and cryptometers are often used to produce specific numerical values. When these values differ from the observations in the finisher's plant, questions should certainly be asked.

This does not mean that control chemists are infallible or that manufacturers must always be absolved. Rather it is merely meant to point out that unless equal conditions are met, variations in results and observations can occur. When the finisher realizes the possibilities involved he is then in a better mood to accept the cooperation of the paint manufacturer; and together they can achieve a common goal of minimizing these hiding problems which so often cause irritations, friction and misunderstanding.—*J. Ixman.*

Yarnall Makes Service Awards

Nine employees of the Yarnall Paint Co., Philadelphia, were awarded service pins recently by Mr. B. F. Swackhamer, president, at a meeting in the plant.

Miss Frances McLaughlin received a gold pin with a diamond for 15 years' service. Miss Audrey Goodman and Mr. Peter Reilly received gold pins for 10 years' service. Those receiving silver pins for 5 years' service were: Miss Beatrice Carter, Mrs. Helen Ford, Miss Laura Brown, Mr. William Miller, Mr. Santo Seracine and Mr. Leon Woodruff.

AGATEEN

A LARGE NATIONAL FIRM* writes:—

"AGATEEN #13C has been found superior to other clear finishes in every respect for nameplate application."

*Name on request.

Agate Lacquer Mfg. Co. Inc.
SERVING INDUSTRY SINCE 1927
11-13 43rd Road
Long Island City, N. Y.
Stillwell 4-0660-1

AGATEEN
THE LAST WORD IN QUALITY

SPRAY MASKS

REDUCE YOUR MASKING COSTS BY USING INEXPENSIVE, HEAT RESISTANT

KWIKY-DOTS

A raised edge is automatically provided on each disc for easy grasping. Connected strings of several discs may be removed for fast application. Stock Sizes—¼" up.

DIE-CUT MASKS, CAPS & PLUGS MADE TO SPECIFICATIONS

Special width of masking tape precision cut to any size from 1/32" up to 9" in standard 60 yard rolls.

BY-BUK COMPANY
4314 W. Pico Blvd., Los Angeles 19, Cal.

Touch-Up Brushes

EVERY FINISHER has need to do touch-up work occasionally. Some finishers are able to do most of this work with spray guns, but others are constantly faced with a certain amount of retouching that can only be done properly with a brush. Where the work is intermitent, the care and keeping of these brushes can be quite a problem.

Some men prefer to buy cheap brushes, give them little or no care, and then throw them away when they break up. This is poor economy. A cheap brush has neither the material nor the construction to do good work. It will not hold or flow out material properly; to make clean sharp lines with it is impossible; and the picking-up of stray hairs that it sheds wastes both time and temper.

On the other hand, a good brush, while fairly expensive, will justify its cost many times over in good work and long life. Both of these qualities, however, are dependent upon reasonable care. A good quality artist's brush will give years of service if properly cared for.

Several methods of cleaning touch-up brushes are in vogue. Some workmen laboriously wipe or soak each brush with progressively cleaner solvents. Some brush out the surplus paint, let the brush dry and depend on strong solvent to soften it again when it is needed. Vigorous brushing or blowing with air, however, breaks bristles and destroys the shape of a brush by driving

NEW! "Catalan"
THE CATALYST FINISH
THE AIR DRY FINISH WITHOUT BAKING!*
• TOUGH
• MAR-RESISTANT
• WATERPROOF
• No glass rings!
• No cigaret burns!
*And in Color, too!
LANDAU
SAVES . . . on baking cost
. . . on forced air drying time
Why not consult with our Laboratory Staff Technicians for advice on any finishing problem.
Look to Landau for direction
J. LANDAU & CO.
Manufacturers of Quality Industrial Finishes SINCE 1920
CARLSTADT NEW JERSEY

GRANCO Flameless Gas Burning Systems

GRANCO
can design the job for the customer for the future . . .

Your products will GLOW when cured and dried with GRANCO flameless gas burning systems.

GRANCO builds Irradiant Grid flameless gas burner systems.
GRANCO builds industrial washers.
GRANCO builds direct, indirect and radiant ovens, dryers, furnaces.
GRANCO builds complete turn key systems.
GRANCO builds for the present and the future.
GRANCO has original ideas, initiative, ability to design and install any size, shape or style system—whether it be convection, radiation, radiant tube or otherwise.

Your Products will GLOW with GRANCO

Write for Bulletin!

GRANCO INC. **317 32nd Street, S.W. • Grand Rapids 8, Michigan**

a deposit of hard paint where the hairs enter the ferrule.

Here is a method which has much to recommend it. All that is needed are a few test tubes about 1-in. in diameter and about 6-in. or 7-in. deep, plus an empty 1-lb. vacuum-pack coffee can. If test tubes are not handy, the individual glass containers that expensive cigars are packed in makes a perfect substitute. The tubes will accommodate about three brushes each; different tubes can be used for each color.

A small quantity of lacquer thinner mixed with oil is poured into each tube; it should not exceed 1-in. or 2-in. Then the tubes are simply placed in the can diagonally so that the bottom end of each one rests in the lower corner of the can, while the top end sticks out over the opposite rim. The touch-up brushes are simply deposited in the proper tube until needed. They come out wet, soft and ready for use. The small amount of solvent prevents damage or smearing of the handle or ferrule, the angle at which they lie eliminates pressure or curling of the bristles, and the can provides a non-tipping support for the test tubes.—*Geo. Conrad.*

Shell Chemical Opens Texas Facility

New facilities for the distribution of Shell Chemical Corp. industrial chemicals have been opened to serve the Dallas and Fort Worth areas.

The terminal, located at 1809 Rock Island in Dallas, will permit delivery on short notice of glycerine, Epon resin in drums and bags, and the complete line of Shell solvents in tank trucks and drums.

The company's technical salesman, O. D. Walraven, will be located at the same address.

Using an artist's spray gun to apply decorative colors on cast aluminum birds positioned on a cardboard easel.

Decorative Painting in a Custom Shop

By Walter Rudolph

LAKE SHORE MARKERS, Inc., Erie, Pa., is widely known to the trade for its diversified services in custom production and designs of all types of markers and identification material. A product may cover several square inches in area or hundreds of square feet. Naturally this poses problems in providing colorful, detailed, quality painting of products that are meant to arrest the attention of everyone.

In recent years builders have turned more and more to aluminum —not only for structural but for decorative uses. Lake Shore Markers has gone along with this trend and currently is setting tonnage records in the manufacture of cast aluminum alloy products of a real decorative nature. In fact, the production and painting of such decorative items is estimated to be about one-third of the factory's present manufacturing capacity.

Manual Production Painting On a Variety of Products

Custom painting on a volume basis has called for the devising of painting methods that will assure attractiveness while keeping labor costs and the final "list price" at reasonable levels. This applies to what the firm calls stock items—products that are manufactured and painted literally in the thousands. And it naturally comes un-

der job-shop work, with the consumer purchasing the item under a name other than the manufacturer.

Lake Shore Markers' decorative items are commonly seen on door grilles, fences, gates, entrances of many kinds, over or near mail boxes, or as ornaments for ordinary signs. For such usage, one turns to animals, birds, flowers and occasionally some attractive or unusual scenery in Nature. The painter must be able to combine colors in the artful fashion of Nature herself.

Some jobs call for several applications of color to a single small decorative item like, for instance, a cardinal or a bluebird in flight. From the art department's study comes the decision as to colors. The painter then has several interesting methods of painting the finished product, in quantities of hundreds, in a minimum length of time.

Special Spray Booth and Work Holders Used

A special paint spraying booth is just high enough so the painter can conveniently sit while doing his exacting work with an artist's spray gun. An exhaust fan at the rear of the booth removes fumes and most of the slight overspray.

The interior of the spray booth has been adapted to hold special fixtures so that cards with many items, or a large single article can be painted in succession with no change of pace. For example, a stock size piece of cardboard now in use here will hold a dozen cast aluminum birds. This loaded piece of cardboard is positioned in front of the painter like an easel. The large single article might be an oval decorative item, also positioned to rest against the easel, and steadied at the top against a wooden peg extended from the top of the booth.

The painter generally works with two special spray guns, one for detail work and one for scenery of more widespread areas. These spray guns are readily changed, as the character of the work dictates. They can be cleaned quickly if need be, when colors are changed.

Facilities for Fast Color Changes; Skilled Workers

Color changes are kept down to a minimum. In painting about 6000 decorative items, say in 30 days, possibly the color changes are only ten on a production or stock item. Cards on which the work is mounted go through the booth rapidly; they are taken from and returned to light easily handled storage boxes. Hundreds of items are

Decorative pieces for grilles, railings, etc. are spray painted with an artist's gun.

painted a single color (a bird breast or wing, for instance) before another color is needed and the cards are started through the booth again.

Skillful Mixing of Colors; Fast Air-Drying Paints

The painter works from about eight basic stock pigments. He is skilled at mixing colors with thinner to produce a desired shade of color or to work out some different color. He uses 3-oz. to half-pint bottles at the spray guns. These small cups or bottles are filled from larger containers that have been prepared with needed colors of paint ahead of time.

These plasticized paints dry quickly after contact with the decorative items. In other words, no special drying or baking procedures are involved. When a job lot of items has received all of the colors stipulated, a final spray coat of clear vinyl is usually applied. Incidentally, at this plant the paints are commonly referred to as vinyl plastic lacquers.

Painting Raised Letters With Hand Roller

Leaving what are perhaps the most colorful of Lake Shore products, how about the common little old numbers for house, street or whatever? A good paint roller or roll-painting department processes these by the thousands at Lake Shore. Again a plastic-base coating is dabbed onto a smooth flat surface, the roller is rolled over it to pick up paint, and then it is rolled over the raised flat surface of numbers and letters to coat them smoothly and uniformly. The rubber rollers are made at a local plant, to Lake Shore specifications.

In the case of signs with a reflective background, a prime coated sign receives a second coating, this time of a white or yellow mastic type of paint. The painter knows from experience—and sometimes a touch with his finger—when the sign is "tacky" enough for bead adherence.

The "tacky" surface of the sign is pressed lightly face down into a container of small beads which, of course, stick to the tacky surface. Excess beads are removed with a light shake. These are clear glass beads, all of the same size. Since the sign was spray-coated completely, the raised or embossed

Raised letters are manually roller coated.

numbers and/or letters must then be roller-coated. This roller coating may be in any one of several colors. It completely obliterates the raised reflective beads, leaving the recessed reflective background untouched. Several thousand of these signs might be processed in a week, with two roller-painters working full time.

Most magnificent of the Lake Shore Markers, of course, are the huge bronze and aluminum plaques or markers for historical sites, parks, roadways or other spots of national significance. These get away from the production type of work—and naturally involve much skill and craftsmanship.

Walberg Heads Electrostatic Paint Spray Division

Arvid C. Walberg has been appointed manager of the new Electrostatic Paint Spray Systems Division of H. G. Fischer & Co., Franklin Park, Illinois. Mr. Walberg was one of the pioneers in the development of electrostatic paint spraying ten years ago and has since specialized in that field. Today, as an engineer, he designs conveyorized electrostatic paint spray departments for industrial plants.

"This is a new venture in the manufacture of industrial products for H. G. Fischer & Co.," says A. W. Mathis, President, "and we are happy to have such a good man in the electrostatic paint spray field to head our new department."

H. G. Fischer & Co. has been internationally known since 1910 as one of the prominent manufacturers of X-ray, physical medicine, and rehabilitation equipment for the medical profession.

The Spee-Flo Co.'s Hot Spray Export Representative

The Spee-Flo Co. of Houston, Texas, manufacturer of hot spray paint equipment and paint pumps, announces the appointment of Paul E. Moss & Co., Inc., New York, as export representative.

Spee-Flo literature has been prepared in Spanish as well as English and is available to importers, distributors and government officials in Spanish-speaking countries. According to Mr. Moss, the literature explains the advantages of the hot spray process in improved quality control, time and material savings and ease of application. Spee-Flo paint heaters, mobile units, airless paint spray system and paint pumps are also illustrated and described.

Courses Offered In Paint Technology

University Extension Division, Rutgers-The State University, 53 Washington St., Newark 2, N. J., offers two courses of instruction in the fundamentals and advanced methods of paint technology.

The elementary course will meet Monday evenings for six weeks beginning Jan. 27. The advanced course will meet on Wednesday evenings starting Jan. 29. Both the courses will be held on the Washington Park Campus of Rutgers in Newark. Tuition for either course is $35.

Two New Officers Elected By Tennessee Eastman

Henry L. Ford has been elected a vice president and W. Chamberlain Hale an assistant vice president of Tennessee Eastman Co., a Kingsport, Tenn., division of Eastman Kodak Co., Rochester, N. Y. Their appointments became effective on January 1.

Harry L. Ford

Mr. Ford is now a vice-president of Eastman Chemical Products, Inc., and heads the chemicals division of this Kodak marketing subsidiary for the products manufactured by The Tennessee and Texas Eastman division. He is also an assistant vice president of Tennessee Eastman in charge of the purchasing and traffic departments.

Hale came with Tennessee Eastman in 1932. For several years he was assigned to production office and standard cost work, becoming Supervisor of the Standard Cost Department in 1941. He was appointed Auditor in 1944 and Assistant Comptroller in 1947; became Superintendent of Production Planning in 1952 and Director in 1953, a position he now holds.

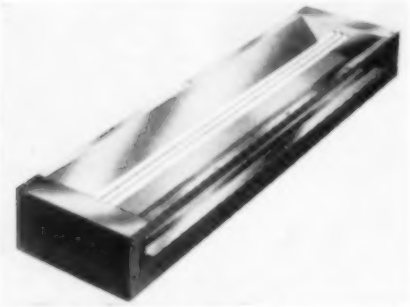
● SUPPLIES
● MATERIALS
● EQUIPMENT

New Fostoria Infrared Oven Sections

A new series of infrared oven sections, accommodating all three proven linear heat sources, was announced recently by The Fostoria Pressed Steel Corporation, Fostoria, Ohio. Designated the 50-000, 52-000 Series, the sections can be equipped with metal rods, quartz lamps or quartz tubes for industrial finishing operations.

Two types of reflectors are available with the 51-000, 52-000 equipment; specular gold and aluminized steel. To gain maximum efficiency from any source used, the reflectors are optically designed to distribute an even pattern of radiant heat over the entire product.

There are two basic sections in the new Fostoria Series. Both are identical in length, but are manufactured in two different widths. The 5½-in. wide section is designed for use with one or two heat sources, while the 11-in. model is prepared to use one, two or three sources. Both models are available in various lengths.



Fostoria infrared oven sections can be equipped with metal rods, quartz lamps or quartz tubes for finishing operations.

New socket design featured in the 51-000, 52-000 infrared sections makes it possible to load or change source units from the front of the oven. Terminal wires can be inserted into the sockets and securely fastened from the front. The new socket will accommodate one, two or three heat sources, thereby allowing the user to start operations with one source and increase the capabilities of his oven later on.

Other features of the new Fostoria sections include: (1) New bolt-type construction that allows the rapid change in oven set-up to meet varying production requirements; (2) New electrical controls for exact selection of finishing temperature; (3) New "open-end" design, which allows the addition of more sections when production requirements call for greater finishing capacity. Detailed literature (Form 57-240) free.

For more data, circle 1 on colored card.

New Spray Gun Saves Paint

"Bleedoff" costs during color changes are cut 65% by a new spray gun for circulating systems developed by the Binks Mfg. Co., 3116 Carroll Ave., Chicago 12, Illinois.

Spray finishing plants using various colors in paint circulating systems frequently shift spray guns from one color line to another. To prevent paint inter-mix, the spray gun and quick detachable hose con-

This new model 19J spray gun developed by the Binks Manufacturing Company, Chicago, cuts "bleed off" costs by 65% during color change overs.

nection must be thoroughly purged of the first color. This represents a paint loss of 7 to 10 fluid ounces for each color change.

The Binks model 19J spray gun is completely purged with only a 2 to 4 ounce "bleed off." Two internal design features are responsible for this paint savings. The amount of paint contained between material inlet to nozzle is greatly reduced and all pockets in the gun head capable of trapping paint are eliminated.

Offering the same paint savings as the one piece aluminum model 19J hand operated gun is the automatic 21J spray gun. The latter is constructed of heavily plated deep forged bronze and is designed for use on automatic painting machines. Both guns have standard ⅜-in. material and ¼-in. air inlets, and are available with 4/16-in. inlets.

For more data, circle 2 on colored card.

Resinous Polyol X-450 Offered By Shell

Shell Chemical announces a new development chemical, Resinous Polyol X-450. This hard, colorless, solid has an average of 5 to 6 primary hydroxyls per molecule. Ideally, its chemical structure may be regarded as poly (1-phenyl, 3-hydroxymethyl butene).

Esterfications can be carried out readily with excellent retention of the original polyol color. Protective coatings made with esters or alkyds of Resinous Polyol X-450 have many valuable properties which suggest their possible use in industrial coatings.

Typical values for the properties are:

Durrans softening point	97°C.
Average molecular weight	1150
Average number of hydroxyl groups per mole	5.2
Average equivalent weight	222

Drum quantities are available from Shell Chemical Corp. Market Development Dept., 50 West 50th St., New York 20, New York.

For more data, circle 3 on colored card.

New Material Pressure Regulator

Holds outlet pressure constant, without flutter, to pinpoint adjustment regardless of pressure in main line.

A new, highly sensitive low pressure (0-50 psi) material pressure regulator which holds outlet pressure constant, without flutter, to pinpoint adjustment regardless of the pressure in the main line, has been announced by the Alemite Division of the Stewart-Warner Corp., Chicago 14, Illinois.

Developed by the Versatal materials handling division of Alemite, and designed especially for paint circulating systems where control of paint pressures between the pump outlet and spray gun must be precise and constant for

efficient application, the new regulator is unaffected by solvent action and abrasion, and will handle any material with near normal ph, i.e., drawing fluid for punch presses, etc.

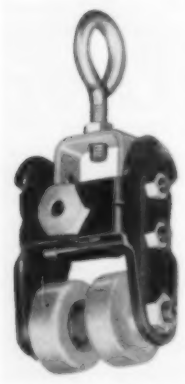
The new design eliminates restricting passages and the possibility of clogging while allowing easy cleaning by back flushing.

A removable wrench-type adjusting key allows permanent pressure setting. The in-line regulator is equipped with a 60-pound gauge regulated so that the outlet pressure of 50 psi will be the maximum obtainable.

The Alemite Division, through its nation-wide distributing organization, also has material regulators capable of handling materials up to pressures of 200 psi.

For more data, circle 4 on colored card.

Nylon Trolley Wheels Safe in Explosive Atmospheres



Nylon trolley wheels.

Developed primarily for explosion-proof applications, the Tipp "Cable - Way" overhead conveyor equipped with nylon trolley wheels has also become popular in installations where extreme quiet or cleanliness is required.

For explosive atmospheres, Tipp installs nylon wheels in bronze trolley side plates. The nylon wheels eliminate sparking from wheel contact on the inverted T-rail. The bronze side plates also will not spark if they brush against metal.

Although the standard Tipp conveyor with steel wheels is quiet, being a cable-type system, the use of nylon wheels reduces operating noise even more. The new trolley has great strength, and can be used in normal temperatures. Tipp Mfg. Co., Fourth and Franklin Sts., Tipp City, Ohio.

For more data, circle 5 on colored card.

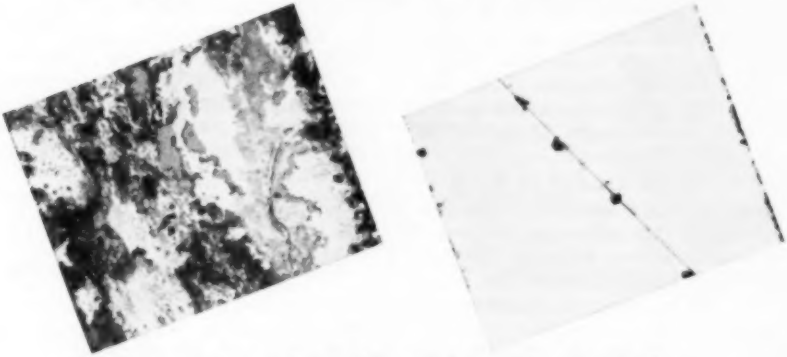
Small Parts and Tote Box Cleaning Machine

A new cleaning machine especially designed for washing tote boxes and small metal parts of various shapes and dimensions is announced by the Magnus Chemical Co., Inc., Garwood, N. J. Loading and unloading of the machine is accomplished at the same end by one operator. In this machine, power spray washing is combined with dip-immersion-agitation, assuring that tote boxes and basketed parts are thoroughly cleaned.

Small parts, loaded in baskets, are washed and rinsed using vertical agitation in the two-stage Aja-Lif automatic section of the equipment at the rate of 25 baskets per hour. The Aja-Lif section uses the dip-immersion-agitation method in which the basketed parts are moved rapidly up and down in the solution, thereby assuring that all surfaces of the work being cleaned are exposed to the ac-

Cleaning machine especially designed for washing tote boxes and small metal parts of various shapes and dimensions.

Which panel took the longest salt shower?



The one on the right — the steel panel protected before painting by Wyandotte PRE-FOS®

The painted steel panel showing by far the least corrosion damage was exposed to A.S.T.M. standard salt spray *154 hours longer* than the badly rusted one! . . . proof of the effectiveness of PRE-FOS in the preparation of metals for painting.

Wyandotte PRE-FOS simplifies processing by cleaning and phosphating in a *single* operation; deposits a fine-grained, corrosion-resistant iron phosphate coating, which saves paint and provides superior impact resistance.

What's more, PRE-FOS prevents rusting of "in-process" steel parts; may be adapted for spray-washing or soak-tank use.

Improve your "finish" with PRE-FOS. Get details from your Wyandotte man, today! *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Also Los Nietos, California. Offices in principal cities.*

Above, unprotected steel panel (left), degreased and painted — exposed to 96 hours of salt spray, compared to panel (right) protected by PRE-FOS before being given identical coat of paint and exposed to *250* hours of salt spray!

Wyandotte CHEMICALS

J. B. FORD DIVISION

THE BEST IN CHEMICAL PRODUCTS FOR METAL FINISHING

tion of the various liquids and evenly treated by the solutions. The up and down movement of the parts in the solution scrubs and shears the soils from interior and exterior surfaces of the parts.

The basketed parts are automatically transferred from point of loading through the wash and rinse stages to the unloading station. The immersion and agitating period in the wash and rinse stages is controlled by an adjustable timer.

Tote boxes are washed in the power spray washing section of the machine. After transferring the small parts from the tote boxes to the baskets, the operator hangs the dirty tote box on a hook of an overhead conveyor which carries the tote box through the tunnel of the machine, where it is thoroughly washed by high pressure sprays. The machine is so constructed that the washing operation functions only when a tote box is passing through the spray chamber. Contact of the tote box with a control arm energizes the spray cleaning mechanism.

As each basket of clean metal parts returns to the loading stage, a clean tote box is ready at this point for instant loading of the cleaned parts and delivery to the next operation.

For more data, circle 6 on colored card.

Sanders Incorporate Automatic Air Tracking of Abrasive Belts

Timesavers, Inc., manufacturers of the Timesaver "Speedbelt" sanders, announces the development of an automatic air tracking device for use on their 40-in. and 50-in. models. It will be standard equipment on all Model SPL and TOP machines in those widths. It is also available for all Model TOP-40 and TOP-50 machines now in use.

The air tracking device is mounted on the machine behind the sanding drum and belt distortion is practically nil. Automatic in operation, the device keeps the belt centered at all times. Movement of the belt in either direction off-center activates the controls which automatically center the belt. The automatic air tracking control is the result of Timesaver's continuous development and research program to provide easier and better ways to perform production sanding. Timesaver Sanders, Box 7446, Robbinsdale Station, Minneapolis 22.

For more data, circle 7 on colored card.

Tilting Open-End Tumbling Machine

This machine is a versatile unit which may be used for either wet or dry tumbling on plastic or metal. It features an all metal water-tight barrel. The barrel is octagon shaped

May be used for either wet or dry tumbling on plastic or metal.

Bond. TACK CLOTH

PACKED IN ROLLS OR IN BULK
JUST THE WAY YOU WANT IT!

A SPECK-FREE FINISH EVERY TIME—Stays Soft and Tacky—*Now available in white or gold—in Four Different Types of Cloth.*

There's a big difference in TACK-CLOTHS—that's why BOND processes four different meshes of cloth with several types of formulations to give you the cloth that best "fits" your special needs. You can get BOND TACK CLOTH packed just the way that suits you best, too—in 150 yard Rolls of 36" wide cloth or in handy Cartons.

No matter which way you buy it, you can be sure that every square inch will stay SOFT and TACKY until the very last bit is used up.

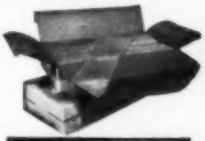
ALL BOND TACK CLOTH is Spontaneous Combustion Proof, Lint-Free and Wax-Free. Gives a sparkling speck-free finish every time. Clean and Sanitary. No waste. Choice of Standard, extra Tacky or less Tacky.

TRY THEM AND COMPARE RESULTS. Samples gladly sent upon request.

A WARRANTY OF SATISFACTION IN EVERY CARTON

IN ROLLS

Cut off any size piece as needed.



IN BULK

Size is 18" x 36"—folded to 4-½ x 18" or 9" x 18" for ease of handling. Cut and folded—ready to use.

Also Individually Packed in Glassine Envelopes — 144 to the carton.

Bond. ***"The Tacky Wiper Specialist"***
CHEMICAL PRODUCTS CO.
2641 N. Clybourn Ave., Chicago 14, Ill.

and can be lined with wood or vinyl. Barrel measurements are 18x24x25-in. The barrel can tilt a full 180° and may be locked in any position. A direct quiet chain powered by a gear motor turns the barrel. The unit occupies only three square feet of floor space. H. W. Kramer Co., Inc., 120-30 Jamaica Avenue, Richmond Hill 18, New York.

For more data, circle 8 on colored card.

Flexible-Tip Air Blow Gun

An improved design, flexible-tip air blow gun known as Air-Lok, engineered for top performance industrial use by mere finger pressure in controlling air volume, now provides all safety and efficiency features endorsed by management and labor alike. Without buttons, handles, levers or gimmicks, the new Air-Lok now has a non-removable and non-loseable tip with standard orifice, flexible neoprene body for easy flexing, durable ¼-in. or ½-in. (IPT) fittings and an improved air shut-off valve (internal) which is fully operable with as little as 20-lb. line pressure. Saving of air loss alone will pay for Air-Lok many times over. Toolcraft Products Co., P. O. Box 92, South Pasadena, California.

Mere finger pressure controls air volume.

For more data, circle 9 on colored card.

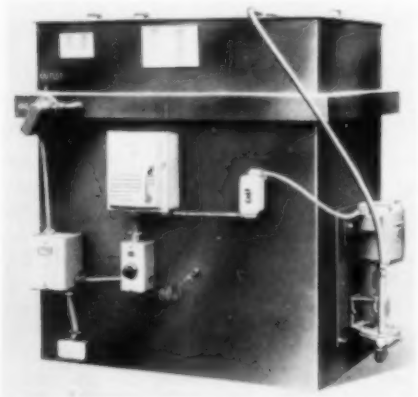
Allied Research Offers New Zinc and Aluminum Cleaners

Allied Research Products, Inc., 4004 E. Monument St., Baltimore 5, Md., manufacturer of the Iridite line of chromate conversion coatings, announces a new line of cleaners formulated to prepare zinc die castings and aluminum for Iridite coatings. All are designed to give long bath life and maximum cleaning efficiency. Each cleaner is supplied in powdered form and is completely water soluble. Each contains water-conditioning, anti-foaming and anti-caking agents that assure good rinsability and ease of use.

For more data, circle 10 on colored card.

Complete Vapor Degreasing System

The new, improved Aircon Model 75 vapor degreaser is supplied as a complete unit, with a low level thermostat control and water flow interlock which prevents boilout due to water supply failure. The unit is electrically fired on 220 or 440 volts and electrical heater load is controlled by heavy duty magnetic contactors.



New, improved Aircon Model 75 vapor degreaser is supplied as a complete unit.

A working area of 38x22-in. and a vapor depth of 24-in. allows a load cleaning capacity from 600 to 900-lbs. of steel per hour. Suitable for Trichlorethylene solvents — requires 16-gallons in boiling sump, 24-gallons in storage. Self solvent-distilling feature assures fresh solvent for spraying. Water consumption—30-gallons per hour. Construction is of heavy-gauge steel with a rust inhibitive interior coating. Total unit weight, 420-lbs. Crated shipping weight, 480-lbs. Aircon Division, Armstrong & White, Inc., 113 Freeport Road, Cheswick, Pennsylvania.

For more data, circle 11 on colored card.

Dry Chemical Fire Extinguisher

Safety First Products, Elmsford, N. Y., has developed a new 3-lb. capacity dry powder fire extinguisher with the Underwriters Laboratories listing and an extinguishing efficiency rating equal to eight one-quart vaporizing liquid (carbon tetrachloride) extinguishers.

The extinguisher is 17½-in. high, 4¾-in. diameter and weighs 8-lbs. fully charged. It is pressurized with 130 p.s.i. nitrogen and charged with treated bicarbonate of soda, free flowing, non-caking, non-toxic and non-abrasive.

The Dri-Power extinguisher may be used on electrical, propane, butane and other gas fires, also flammable liquid fires.

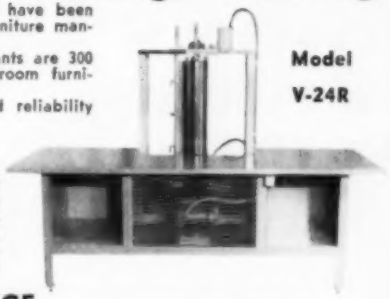
For more data, circle 12 on colored card.

Wood Grain, Custom Design Printing

Our vertical and horizontal graining machines have been in service in plants of leading television and furniture manufacturers for many years.

Average production rates per day at these plants are 300 to 400 T.V. cabinets, or 75 to 100 sets of bedroom furniture.

These figures tell the story of confidence and reliability in our machines.



Model V-24R

SIMPLICITY

Our byword for design in production machines. The Shelton grainers are the most straight forward approach to wood graining equipment offered to the manufacturer. Absolute minimum of maintenance and extremely simple to operate. Inexperienced operators have produced top quality work on a conveyorized production line with less than one hour instruction.

SERVICE

We make our own gravure cylinders and gelatin rolls using processes developed after years of research by our research department.

To you, this means buying machines, cylinders, and gelatin rolls from one source, thus assuring you prompt deliveries and service.

SHELTON GRAINING SUPPLIES, INC.

BURBANK, CALIFORNIA

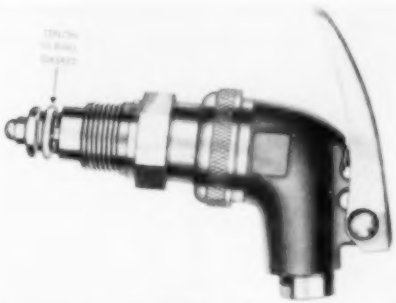
Address inquiries to our engineering representative:

ELECTRO-MECHANICAL INSTRUMENTS, INC.

119 SO. ROSEMEAD BLVD., PASADENA, CALIF.

Improved Leak-Proof Self-Closing Drum Faucet

No more leaky drums with this newly improved safety drum faucet. A sturdy spring, located within the body, maintains a liquid-tight closure at all times. Hand pressure on the large lever-type handle is necessary to push spring back and permit flow of liquid. No seepage or leakage is possible when hand pressure is removed. Valve closes automatically. There is no possibility of leaving the faucet open and discharging while attendant performs other duties. There is no way for liquids to gather on floors to become safety hazards.



No seepage or leakage is possible when hand pressure is removed.

Two types are available: 1) a self-positioning swivel-type faucet which may be screwed tightly into the drum opening and the spout portion, regardless of position, then swiveled to the correct angle for dispensing where it is secured by a knurled locking ring; and 2) the usual rigid type faucet which generally requires a thread compound to form a liquid-tight connection. Body of the faucet may be of non-sparking brass or stainless steel; lever-type push handle is a cadmium plated steel stamping. A cylindrical perforated brass fire

BOOKS
On Finishing Available

"ORGANIC PROTECTIVE COATINGS," (396 pages)	$7.50
"PROTECTIVE COATINGS FOR METALS," (643 pages)	12.00
"ORGANIC COATING TECHNOLOGY," Vol. 1	12.00
"ALUMINUM PAINT & POWDER" (219 pages)	4.50
"FLOW COATING," (296 pages) new	8.00
"CHEMICAL FORMULARY" (Vol. X) (Preceeding Volumes also available, same price)	8.00
"FINISHING METAL PRODUCTS"—2nd edition (352 pages)	6.50
"PRACTICAL FURNITURE AND WOOD FINISHING"	2.00
"FURNITURE FINISHING" 543 pages)	5.00
"SPRAY PAINTING"—Industrial and Commercial (169 pages)	2.50
"COLOR DECORATION AND DESIGN (200 pages)	3.00
"THE MIXING OF COLORS AND PAINTS" (292 pages)	3.00
"WOOD FINISHING" (361 pages)	3.00
"MODERN POLISHES AND SPECIALTIES" (316 pages)	7.50
"GRAINING" — Ancient and Modern (224 pages)	5.00
"SCREEN PROCESS METHODS OF REPRODUCTION" (252 pages)	4.00
"THE SCIENCE OF WRINKLE FINISHING" (204 pages)	5.00
"THE SCIENCE OF MODERN WOOD FINISHING" (386 pages)	7.50
"PAINT & VARNISH TECHNOLOGY" (509 pages)	8.00
"PAINT FILM DEFECTS — Their Causes and Cure" (544 pages	12.50
"FINISHING MATERIALS AND METHODS" (320 pages)	4.00
"ENCYCLOPEDIA OF THE CHEMICAL PROCESS INDUSTRIES" (820 pages)	12.00
"PROFESSIONAL FURNITURE PATCHING, REPAIRING and APPLIANCE TOUCH-UP," (90 pages)	3.50
"SCIENTIFIC PAINT EVALUATION," (321 pages)	9.00

Cash Must Accompany Order—
Send for Descriptive Circular

INDUSTRIAL FINISHING
1142 N. Meridian St. Indianapolis 4, Ind.

baffle, which also serves as a strainer, is located within the faucet at the dispensing end where it is easily removed for cleaning without unscrewing the faucet. This fire baffle prevents exterior fire from entering and igniting the drum contents. Provision is made for padlocking both faucets in a closed position to prevent unauthorized withdrawal. Manufactured by The Protectoseal Co., 1920 S. Western Ave., Chicago 8, Ill.

For more data, circle 13 on colored card.

Automatic Conveyor Lubricator

A new type of automatic conveyor lubricator has been designed and is in production by J. N. Fauver Co., 51 W. Hancock, Detroit 1, Mich., for the purpose of lubricating continuously and automatically chains that are moving rapidly or are close coupled.

Model 115X-S is designed to apply a thin coat of lubricant on chain links. Air passes through a solenoid valve into the lubricator reservoir.

When conveyor starts, lubrication starts.

• BETTER LOOKING
• LONGER LASTING
• EASIER TO APPLY

You're Sure OF ALL with NEW PERIOD

• Fillers and stains
• Sealers
• Lacquers—Clear and Semi-Gloss
• Lacquer Enamels—Flat and Gloss
• Synthetic Enamels

Quality Isn't Just Luck

Write for 5 Gallon Working Sample at Drum Price

MANUFACTURERS OF FINE WOOD AND METAL PRODUCTION FINISHES

NEW PERIOD Production Finishes

Established 1917
NEW YORK WOODFINISHERS' SUPPLY CO., INC.
109 Imlay Street Brooklyn, N. Y.

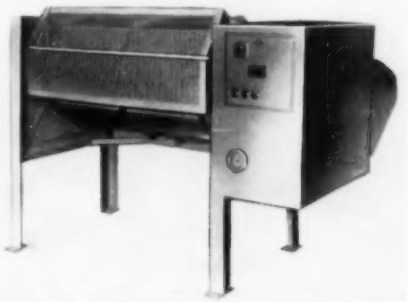
Lubricant is conducted from the reservoir through tubing to outlet nozzles which, in turn, spray lubricant continuously on the chain.

For more data, circle 14 on colored card.

Multi-Barrel Finisher

Designed as a heavy-duty unit suitable for many tumbling, burnishing and deburring operations, Model V-16 multi-barrel finishing unit features a variable-speed direct gear drive. This eliminates need for chains and sprockets, and permits simple speed adjustments from 8 to 25-rpm. With built-in magnetic brake and perforated metal safety guard in front of barrels, fast production finishing can be performed with full control and safety.

Added features include large 16-cu.ft. capacity, choice of one to four compartment barrels, no-seam vinyl barrel linings, 3-h.p. motor, forward and reverse jobbing switches and all-welded ¼-in. steel plate construction. Typical uses are finishing of flat washers, screw machine parts, die castings, jet blades, threaded bolts and similar parts. Model V-16 has



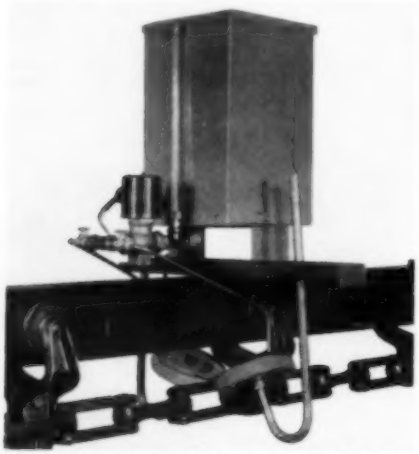
Heavy-duty unit suitable for many tumbling, burnishing and deburring operations.

30-in. clearance under barrels and measures 82-in. long by 42-in. wide and 64-in. high. Full details available from Rampe Mfg. Co., 14915 Woodworth Ave., Cleveland 10, Ohio.
For more data, circle 15 on colored card.

New Freiman Conveyor Oiler

This new automatic Oiler for conveyor chain links and pins applies an even film of oil by direct contact of oil-carrying felt rollers. There is no mist, spray or drip. It can be used with all chain-type conveyors, and is especially advantageous anywhere that oil drip is objectionable.

Rollers apply an oil film to each side of top of chain simultaneously. They are independently hinged so that equal roll pressure is constantly maintained despite normal swaying of the conveyor chain in motion. Roller contact with the chain is effected manually by means of a lever. A solonoid valve automatically starts and stops oil flow as the conveyor starts and stops. Two needle valves directly control the oil flow to each side of chain after solonoid valve is opened. These oilers are also supplied without solonoid where automatic oil control is not required.



Automatic oiler applies an even film of oil by direct contact of oil-carrying felt rollers.

Every link bearing and pin gets oiled every time it passes the oiler device, through gravity flow of the oil film applied and the normal chain movement with the conveyor in motion. Literature on request. Olsen Mfg. Co., 638 S. Rochester Road, Clawson, Michigan.
For more data, circle 16 on colored card.

Pinless Spiral Nozzles

The new nozzles have a spiral element that peels the spray from a solid jet into a spiral sheet which breaks up into a fine fog. The nozzles differ from earlier models in that they are machined from a single solid bar and do not require an internal pin or spreader.

Has spiral element that peels the spray from a solid jet into a spiral sheet which breaks up into a fine fog.

Because of the rugged one-piece construction, the new nozzles are suitable for manufacture from an easy-to-machine material, including the softer metals and plastics, for example, nylon, teflon, hard rubber, polyvinyl chloride. More than 100 sizes and types of nozzles are now being manufactured by the Bete Fog Nozzle, Inc., 309 Wells St., Greenfield, Mass.
For more data, circle 17 on colored card.

Armour No-Load Sandpaper

Armour No-Load finishing paper will not "fill" or "clog" during sanding, therefore it is useful for sanding undercoats, paints, varnishes, lacquers, enamels, shellac, sealers, primers, and surfacers.

Besides being economical to use, the new Armour finishing paper features a new tough flexible backing which prevents slipping in the operator's hands. A new binder adhesive prevents grain shedding when sanding sharp or rough edges. The special no-load coating will not rub off when moistened or during sanding. Through an improved method of electrostatic grain coating, added sharpness has been built into this new Armour product. Armour & Co., Coated Abrasives Division, Alliance, Ohio.

For more data, circle 18 on colored card.

Tubular Infrared Heaters

A new line of tubular infrared radiant heaters for use in ambiant temperatures up to 1000° F. is now available. The units can be used for baking, curing, degreasing, preheating and other industrial applications requiring controlled heat.

Tubular infrared radiant heaters for use in ambiant temperatures up to 1000 °F.

Called Vicoray, the line is available in both panels and individual tubular elements completely wired and ready for erection. The units come in both 120 and 240 volt, and can be wired in series for use with 480 volts.

The line ranges in wattage from 500 watts up to panels of 36 k.w. Size range extends from 11-in. to 48-in. The standard wave length is said to be suitable for most applications, but units in special or modified wave lengths are also available. The units are guaranteed against burnout for one year.

Complete catalog available from Douglas C. Whitaker Co. Inc., 141 E. Glenside Ave., Glenside, Pa., or their distributors, Radiant Products Co., 2326 S. Michigan Ave., Chicago, Ill., and Industrial Heat Systems, 6938 Farmdale Ave., North Hollywood, California.

For more data, circle 19 on colored card.

Marblette Adds Severe-Duty Varnish

A protective varnish to guard metals and other materials from severe heat and corrosion hazards has been added to the coating resins group in the Maraset epoxy line of the Marblette Corp., a leading plastic materials supplier since 1929.

Designated Maraset clear varnish BV-790, the metal-baking resin adheres firmly to cleaned and dried surfaces on which it is brushed or sprayed. After a heat cure of 20 minutes or longer, it sets completely to form a thin but tough and flexible coat which resists abrasion and chipping, and maintains chemical resistance at temperatures as low as minus 60° and as high as 200° Centigrade. It is used as a single-component pro-

tective system, requiring no catalyst addition prior to cure.

Maraset BV-790 resin is being widely adopted as a barrier against corrosion and chemical deterioration for many types of metal products, including cans, drums, brass and other hardware, cosmetic containers, and appliances. Its clarity assures its covering original finishes without discoloring or obscuring them.

Industrial applications include providing a Kirksite undercoat in fabrication of plastic tools and dies.

Owing to its dielectric strength as well as its ability to function even at extreme temperatures and in highly corrosive atmospheres, the epoxy varnish is successfully employed as an insulating coat on electrical and electronic components such as power resistors, motors, and transformers.

Properties and working instructions for resin BV-790 are detailed in a technical bulletin available on request from Max Hilrich, research director, Marblette Corp., 37-31 Thirtieth St., Long Island City 1, N. Y.

For more data, circle 20 on colored card.

For Faster Caustic Stripping

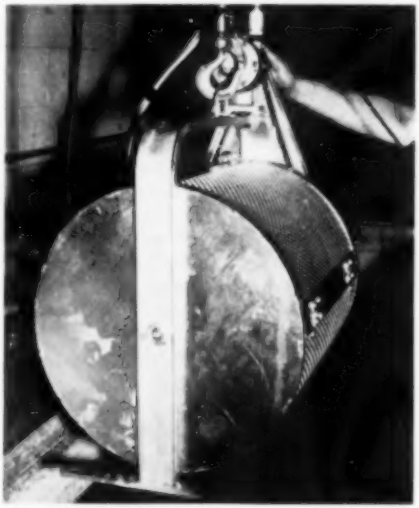
The Technical Dept. of Magnus Chemical Co. announces the development of Magnus Activall, for use as an additive to caustic stripping solutions where work being stripped is immersed in the stripping solution.

This product increases the effectiveness of any alkaline stripping solution by decreasing stripping time, by making it possible to strip a finish which cannot be stripped by normal alkaline strippers, or by combining stripping with rust removal. It is recommended for firms having the problem of refinishing or painting metals such as steel, cast iron, etc., which are inert to the action of strong alkalies.

For more data, circle 21 on colored card.

Rotating Tumbler For Cleaning Parts

An all-steel tumbler 22-in. long, 18-in. diameter, is now available for cleaning and treating small hard to handle parts in a tank system.



All-steel tumbler for cleaning and treating small hard-to-handle parts.

The tumbler is powered by a ½-hp air motor. Tumbling speeds can be increased or decreased by throttling motor to a maximum of 120-r.p.m. It has a removable door for loading and unloading. Full information on Model T-18 rotating tumbler from the Dayton Rogers Mfg. Co., Minneapolis 7.

For more data, circle 22 on colored card.

M. T. Schimmel in Calif. For Conforming Matrix Corp.

Milton T. Schimmel, special consultant to the spray decorating field, has been appointed as West Coast Sales Engineer for Conforming Matrix Corp., Toledo, O.

Conforming Matrix specializes in spray painting masks, tools, mask washers and automatic spray decorating machines.

Mr. Schimmel's office is at 14017 S. Wilkie Ave., Gardena, Calif.

CHEMICAL FORMULARY

Volume X

Compiled by a Staff of Experts

Editor-in-Chief, H. BENNETT

648 pages • 5½x8½ • $8.00

The NEW Volume X of THE CHEMICAL FORMULARY is a collection of new up-to-date formulae compiled by the country's leading industrial and research chemists in each field of industry.

It is an entirely new book, complete in every detail. Each formula is new and different. Not one formula contained in the previous eight volumes is repeated in this book.

Keep Up with the Latest Developments!

Contains the Latest Formulae—Processes—Commercial Methods

Every important industry will welcome this new collection and tested formulae. All of them are the result of long years of research and millions of dollars spent on experiments. Many of them have never before been revealed to the public.

No matter how simple or complex your problem may be, this book will enable you to solve it easily and quickly.

Improve your products, add new products to your present ones and make new customers with the help of the NEW CHEMICAL FORMULARY—Volume X.

No Important Industry Has Been Overlooked!

Adhesives, cosmetics and drugs, ceramics, glass and cement, colloids, farm and garden products, food, ink, and marking compounds, insecticides, fungicides, and weed killers, leather, skins and furs, lubricants and oils, metals and their treatment, paint, varnish, lacquer and other coatings, paper, photography, polishes, pyrotechnics and explosives, rubber, resins, plastics and waxes, soaps and cleaners, textiles are among the products covered in this volume.

ORDER YOUR COPY TODAY FROM

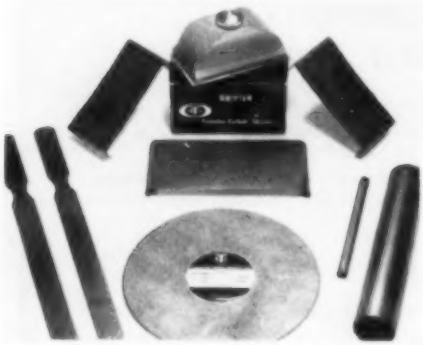
INDUSTRIAL FINISHING Magazine

1142 NORTH MERIDIAN STREET INDIANAPOLIS 4, IND.

Volumes 1-9 also available

New Type Abrasive Grits

Kengrit, a new tungsten carbide material, is announced by Kennametal Inc., Latrobe, Pa. It is available in standard grit sizes from 24 to 240 as defined by the U. S. Department of Commerce, Simplified Practice Recommendation 118-50 for abrasive grain size.



Fine, sharp grits of hard tungsten carbide developed by Kennametal Inc.

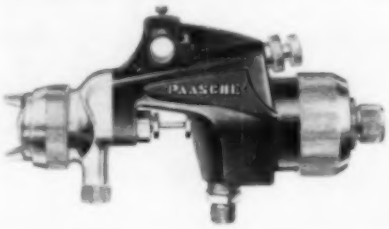
Use of these abrasives include a grit shaper to replace the wood file or rasp, sanding shoes for hand and power sanders, and a cutting wheel that can be used like a circular saw to cut, sand, groove, dado and shape.

For more data, circle 23 on colored card.

New Paasche Automatic Spray Gun

A new automatic spray gun, Model 310, has been placed on the market by Paasche Airbrush Company, a division of Cline Electric Manufacturing Company, Chicago, Illinois.

The new gun has an infinite spray pattern adjustment made possible by the dual air valve control, patents applied for, which permits the use of air from the fan ports only, center air cap holes only, or an intermixture of any proportion of air from these sources. The atomizing air control and the fan control afford infinite pattern adjustment with a minimum number of air caps.



New Paasche automatic spray gun.

The gun is a two hose gun requiring one hose for fluid and one hose for air. Because of the dual control of air, it makes it possible to adjust both atomizing or fan air and to reduce atomizing air pressure below the pressure required to actuate the piston without the use of a third hose.

A stainless steel fluid tip and stainless steel needle are used as standard equipment. The gun uses Teflon as a packing material, which is self-lubricating, will not dry out, harden or deteriorate. A Teflon piston ring is used which does not require lubrication and has a much lower coefficient of friction or drag than other piston ring materials. The Paasche Model 310 automatic gun construction utilizes the cartridge principle for easy parts replacement.

For complete information on this and other Paasche automatic guns, request Catalog 3 from Paasche Airbrush Company.

For more data, circle 24 on colored card.

The term *ability* refers to an indidual's potential performance, whereas the term *performance* refers to what a person actually does under given conditions.

For Your Convenience

Use INDUSTRIAL FINISHING magazine's "Reader Service" return cards to obtain further information on products described and illustrated in the "Materials; Supplies; Equipment" section which precedes this page; also to receive further information on what manufacturers have to offer—literature, products, supplies, services, etc., as mentioned on the following pages.

It's simple and convenient for everyone. Just circle the corresponding numbers on reverse side of card below, print or type in your name and your company's name and address, detach and mail. No postage required.

Postage Will Be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
First Class Permit No. 1490, Indianapolis, Indiana

Industrial Finishing Magazine

1142 N. Meridian Street

Indianapolis 4, Ind.

READ

all the items on the following pages.

They are published that you may have first-hand knowledge of the offerings of manufacturers advertising in this issue.

January, 1958, Issue

FINISHING **READER SERVICE DEPARTMENT**

Without obligation, please see that we receive further information and manufacturer's literature identified by the numbers circled on this card:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108		
109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125					

Name.....*Title*.....
(PLEASE PRINT)

My company's name.....

Street Address.....

City.....*Zone*.....*State*.....

What Manufacturers Offer--Literature, Materials, Equipment, Supplies, Services

Please Mark Returned Cards Correctly

Some of the returned cards we receive are not filled in correctly—and we cannot read a few of the hand written names and addresses. Before returning a card, please check to see if it is marked correctly—and legibly. Thank you.—Editor.

Perfex Satin Finishes, the original "flat" made by a new and different process, without the use of stearates or other flattening agents, now with improvements, have cut the dust-free time, increased print resistance, increased body and build, improved clarity and color . . . . all of which combines to produce a wonderful rubbed effect appearance and a pleasant waxed effect feel. Available in a full range of sheens to produce the exact rubbed effect and waxed feel desired. Perfection Paint & Color Co., Indianapolis 2, Ind.

For more data, circle 25 on colored card.

Epoxystrip identifies a new stripping material made by Beck Equipment Co., 3352 W. 137th St., Cleveland 11, Ohio, said to be a more powerful paint stripper for organic finishes. Especially formulated to remove epoxies with the same ease that it removes baked enamels, lacquers, etc. No stripping scum—clean rinsing. Free brochure on request.

For more data, circle 26 on colored card.

Performance Proved Spray Nozzles can lower your costs in washing, coating and rinsing. Have adjustable joints for quickly setting each spray to fit the work. Write for free catalog No. 24. Spraying Systems Co., 3240 Randolph St., Bellwood, Illinois.

For more data, circle 27 on colored card.

Agateen Clears assure beauty, quality, good appearance and protection. Don't gamble with the sale of your products at the retail level. Investigate Agateen clear lacquers, air dry and semi-bake lacquer enamels and baking lacquers. Agate Lacquer Mfg. Co., Inc., Long Island City, New York.

For more data, circle 28 on colored card.

Wood Grain Printing machines (vertical roller) print custom design graining pattern on assembled or partly assembled TV cabinets, furniture, etc. Cylinders and other supplies furnished. Shelton Graining Supplies, Inc., 14346 Bessemer St., Van Nuys, Calif. Electro-Mechanical Instruments, Inc., 119 So. Rosemead Blvd., Pasadena, Calif., engineering representative for Shelton Graining Supplies.

For more data, circle 29 on colored card.

Multicolor One-Coat Finish called "Spex" is featured by V. J. Dolan & Co., Inc., 1830 N. Laramie Ave., Chicago 39, Ill. Provides a combination of two or more distinct contrast or harmonizing colors in one coat with standard spray equipment. Hides all surface irregularities. Suitable for finishing wood, metal, plastic, brick, concrete and all types of composition board. Dries like lacquer. Available in a great number of attractive stock colors. Color card available.

For more data, circle 30 on colored card.

Special "Dulux" Enamel for roller-coat application only is manufactured by E. I. duPont deNemours & Co. (Inc.), Finishes Division, Wilmington 98, Dela. "Dulux" gives superior covering properities, hardness and flexibility when applied to metal surfaces by roller coating machines. At maximum machine speeds, it goes on smoothly and evenly. Complete information upon request.

For more data, circle 31 on colored card.

Armorhide. An attractive durable finish for metal; looks like leather; colored; textured. Booklet and sample panel offered free by John L. Armitage & Co., 245 Thomas St., Newark 5, N. J.

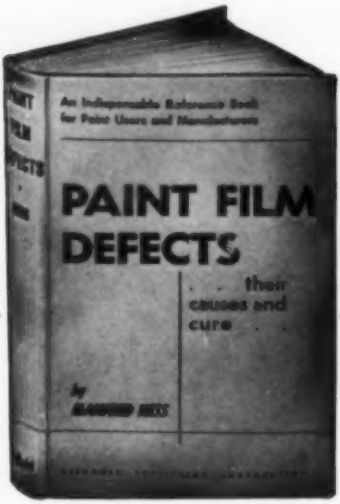
For more data, circle 32 on colored card.

"How to Strip Paint" is the title of a book issued free by Oakite Products, Inc., 20 Rector St., New York 6, N. Y. Outlines better ways to strip paint. Be sure to write for your copy. Oakite has more than a dozen fine stripping materials for every stripping job.

For more data, circle 33 on colored card.

Ovens to Bake all pastel colors perfectly. High volume; fine quality; excellent performance. Free catalog. The Lanly Co., 760 Prospect Ave., Cleveland 15, Ohio.

For more data, circle 34 on colored card.



HERE ARE enumerated in this remarkably valuable book of 544 pages, all of the common nad a variety of unusual and seldom heard-of defects and objectionable features that occur in paint, varnish, lacquer and synthetic enamel finishes; their probable, possible or real causes given; the effects described, and means of preventing and remedying these troubles fully outlined.

Chapters deal with these defects and troubles as they occur, 1) during or as a result of storage and preparation of materials before finishing; 2) when the materials are applied by various production methods and equipment, 3) during handling, processing or drying after application; and finally, 4) when and after the finished goods are shipped, displayed, stored or placed in service.

Defects covered include many more than could be named here, but to mention just a few there are: runs, sags, tackiness, films, too thin or too thick, slow drying, orange peel, alligatoring, wrinkling, pimples in films, pinholing, cracking, blistering, lifting, bleeding, blushing, blooming, discoloration, rainbow effects, gloss and dull areas, grained appearance, and scores others.

Practical information is also revealed in reference to safety precautions to prevent fires or accidents in paint shops and finishing rooms, skin troubles of workmen, poison from paint materials and fumes.

By referring to the "Subject Index" of 84 pages in back of the book, it is possible to locate quickly, the answer to any particular failure, cause or remedy.

Price $12.00—Money Back Guarantee.

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

Lacquers for Aluminum, made of Eastman half-second Butyrate, assures lasting protection against weathering and unsightly rub-off on hands and clothing. Films are stable to ultraviolet light and do not whiten, yellow or peel. Get details from your lacquer supplier, or direct from Eastman Chemical Products, Inc., Kingsport, Tenn.

For more data, circle 35 on colored card.

New Tweed, a multi-color decorator finish that sprays on easily, stays on for good, is announced by Raffi and Swanson, Inc., Wilmington, Mass. Bulletin 115 available. Finishes for metal, wood, rubber, fabric, paper and plastic are also made by R. & S.

For more data, circle 36 on colored card.

Instant Stripper—For metal or wood finishes. A non-flammable, non-toxic stripper which removes almost instantly, most finishes—enamels, either lacquer or synthetic (baked or air-dried), paints, varnishes, etc. V. J. Dolan & Co., Inc., 1830 N. Laramie Ave., Chicago 39.

For more data, circle 37 on colored card.

New Color Styling reflects the quality of furniture. Lindeman Wood Finish has both. For new colors and finishes, inquire at Lindeman's studio and laboratory in Galax, Virginia, or write Lindeman Wood Finish Company, Inc., Indianapolis 2, Indiana.

For more data, circle 38 on colored card.

Gas-Tight, Fog-Proof Goggles for use by paint sprayers and workmen in metal cleaning, grinding and polishing departments. H. S. Cover, South Bend, Indiana.

For more data, circle 39 on colored card.

"Barcotone" Multicolor Finishes are now being used extensively on displays, store fixtures and a wide variety of furnishings and equipment. "Barcotone" is made in 24 color combinations, is extremely durable and cleans easily with a damp cloth. Complete information on "Barcotone" Multicolor Finishes can be obtained from Barrett Varnish Co., 1532 S. 50th Court, Cicero 50, Ill.

For more data, circle 40 on colored card.

Bond Tack Cloth for "Speck-Free" finishes every time. Save time and work with Bond Tack Cloths in handy rolls, bulk, white or gold, in three different kinds of cloth. Bond Chemical Products Co., 2641 N. Clybourn Ave., Chicago 14, Illinois.

For more data, circle 41 on colored card.

GAS-TIGHT! FOG-PROOF!
GOGGLES

PROTECT EYES AGAINST PAINT SPRAY, dust, fumes, gas, smoke, etc. Can be worn with any make respirator or mask. Soft, pliable rubber frames give air-tight fit an any shape face. A few drops of water on inside of lenses keep fog off by a simple nod or shake of head. Sample $2.00 postpaid! Order today!

H. S. COVER, P. O. Box 2508, South Bend 14, Indiana

Roller Coating Specialists and manufacturer of Epoxy lacquers, enamels and vinyls. Better research, quality and service to users of industrial finishes. Gordon Bartels Co., Rockford, Ill.

For more data, circle 42 on colored card.

Mar-Proof Lacquer, made by The Schaefer Varnish Co., Inc., Louisville, Ky., is a performance-proven finish that cannot be easily marred or scratched. Tougher than ordinary lacquers, it meets the most critical requirements of current production. Made in either clear gloss rubbing or satin finish, it produces a splendid transparent coating of full depth on maple, walnut, gum, mahogany and other cabinet woods. Working samples furnished without obligation.

For more data, circle 43 on colored card.

Pyroxcote No. 26-105 is a clear metal lacquer of unequaled versatility; is non-yellowing, weather and marine resistant, non-spotting on highest polished surfaces and applicable by all conventional methods. Excellent for clear finishing on plated goods, brass, copper, aluminum, silver, steel and other metals. Pyroxylin Products, Inc., 4851 S. St. Louis Ave., Chicago 32, Ill.

For more data, circle 44 on colored card.

Grain Two Colors on one run with the Hamant DH-128 two roll grainer. Gives perfect registration and deep, beautiful graining on wood, plastic and metal. No longer necessary to run work through twice to get a two-color job. Use either or both of two rolls. Handles sheets up to 48-inches wide, at speeds of 25 to 75 feet per minute. Literature on request from Hamant Tool Co., Inc., 502 Warren St., Dayton 9, Ohio.

For more data, circle 45 on colored card.

PAINT STRAINERS

FOR STRAINING LACQUERS ENAMELS, PAINTS OR VARNISHES.

Made of heavy paper stock with cloth inserts in coarse, medium, fine or extra fine mesh. 6" in diameter.

LOUIS M. GERSON CO.
CUnningham 6-1463
BOX 175A MATTAPAN, MASS.

Acyrlic, Alkyd, Vinyloid coatings for a very wide range of specialized industrial applications, are offered by The Varnish Products Co., 5206 Harvard Ave., Cleveland 5, Ohio.

For more data, circle 46 on colored card.

Ideal Tack Rags are used prior to painting, to wipe off and hold dust, dirt, sand particles and lint too small to see, but which might leave a blemish or defect on the final coat of paint or finish. Ideal Chemical Co., 1499 Dean Drive, South Euclid 21, Ohio.

For more data, circle 47 on colored card.

Iridite Finishes. Special Report No. 3 on finishing non-ferrous metals; lustrous, corrosion-resistant finishing and chemical polishing. This finish cannot flake, chip or peel. No special equipment or trained personnel required. Allied Research Products, Inc., 4004 E. Monument St., Baltimore 5, Maryland.

For more data, circle 48 on colored card.

Exposure Tests. Actual weathering, corrosion and sunlight tests, direct and under glass for quick predetermination of durability and permanency in southern Florida by South Florida Test Service, 4201 N.W. 7th St., Miami 34, Florida.

For more data, circle 49 on colored card.

IF YOU DO **WHEEL POLISHING**

SAVE MONEY
and get a
BETTER FINISH

with NEWCO No. 1 Fine Polishing & Rubbing Compound

Newco No. 1 Fine has been a favorite since 1936 for polishing and rubbing all lacquer, varnish or synthetic surfaces. Write on company letterhead for full information.

Representative inquiries invited

NEWCOMB PRODUCTS CO.
3802 Payne Ave. Cleveland 14, Ohio

Fast! but fast!

Non-Flammable Varnish Remover and Stripper

Best for Baked Synthetic Finishes
Powerful Solvent Action
Low Toxicity
Low Cost

Old Finishes literally POP-UP

"A remover for every Problem"
Write for Samples and Prices

THE PRILLAMAN CO.
MARTINSVILLE, VIRGINIA

Ovens for Every Service—drying; baking; portable cabinet; batch-type or conveyorized; standard and special in design, construction and installation. Industrial Ovens, Inc., 13821 Triskett Road, Cleveland 11, Ohio.
For more data, circle 50 on colored card.

Lacquers, NGR Stains, and everything used for finishing fine furniture, cabinets, pianos, etc., plus styling and technical service—in Southeast U. S. A. Snyder Brothers Co., P. O. Box 631, Toccoa, Ga.
For more data, circle 51 on colored card.

50% Paint Saving reported with the use of the Ransburg No. 2 Process. Puts paint on the product instead of up the stack. A single reciprocating disc unit automatically handles the paint application in one plant which formerly required eight sprayers. A No. 2 Process brochure which pictures many on-the-line examples of electro-coating on a wide variety of products is available upon request. Ransburg Electro-Coating Corp., Indianapolis 7, Indiana.
For more data, circle 52 on colored card.

Irradiant Grid Gas Burner is especially designed by Granco, Inc., 317 32nd St., S. W., Grand Rapids 8, Mich., for curing and baking enamel finishes. It can also be used in burn-off ovens and in dry-off ovens which follow power washers. It produces radiant heat through means of an open retort refractory.
For more data, circle 53 on colored card.

"Cres-Lite" Bronze Powders for spraying, dipping or flow coating give a plated effect like a pure metallic bronze powder. A full range of 33 colors are in stock, or colors can be matched to suit your particular needs. New colors and shades of metallic finishes can be created in our Design Department. New color card showing our "in-stock" bronze powders is free upon request. Crescent Bronze Powder Co., 118 W. Illinois St., Chicago 10, Ill.
For more data, circle 54 on colored card.

Union Roller Coaters is the title of a new illustrated booklet issued by the Union Tool Co., Warsaw, Ind. It gives complete details on features, sizes, specifications and applications of Union Roller Coaters, which are available in four models to meet the widest variety of coating applications. Ideal for low-cost coating of paint, lacquer, compounds, wax, oil, glue, adhesive, etc. Booklet free upon request.
For more data, circle 55 on colored card.

T342 T349 T415 T416 T350 T343 T251

One of the above

ELECTRO COLD STRIPPERS

Will provide an easy answer to your **PAINT REMOVING** problem.

Enamels, Hammer Finishes, Wrinkles, Epons—Will "pop" loose in minutes—often seconds, while you watch. Write for testing sample or forward parts for complete laboratory work-up —All gratis.

ALLIED FINISHING SPECIALTIES CO.

2641 W. GRAND AVE. CHICAGO 12, ILL. AR 6-2222

Tousey's New Hammercote, a new concept in hammer finishes. In final baked form, Hammercote gives an extreme hard, marproof film that frequently has the appearance of an extra coat of clear having been applied over the original finish. Hammercote applies smoothly with amazing uniformity in pattern. Tousey Varnish Co., 520 West 25th St., Chicago 16, Ill.

For more data, circle 56 on colored card.

Formulations for Plastic Products have been created by Randolph Products Co., Carlstadt, N. J. Spray lacquer coatings equal to every plastic coating problem, particularly adhesion and the tendency to craze, have been formulated in decorative color contrasts, to give a new lift to your sales results.

For more data, circle 57 on colored card.

Hot Spray Units called Thermo-O-Spray, heat both the material and the air electrically. Safety and adjustable controlled heat (170° to 350° F.) are only two of several interesting and practical features. A colorful 6-page bulletin explains and illustrates everything. Thermospray Co., Inc., 60 East 42nd St., New York 17, N. Y.

For more data, circle 58 on colored card.

"Pearlescent" Finishes. Synthetic, but with the natural-look, in air dry or bake. For use on metal, plastic, wood or glass. Rona Laboratories, Inc., East 21st & East 22nd St., Bayonne 2, N. J.

For more data, circle 59 on colored card.

Conveyorized Finishing Systems by DeBurgh Conveyors, Inc., Evansville 4, Indiana, are featured as serving many of America's most progressive furniture manufacturers. Details upon request.

For more data, circle 60 on colored card.

Prevents Rusting of "in-process" steel parts in preparation of metals for painting with Pre-Fos. Wyandotte Pre-Fos simplifies processing by cleaning and phosphating in a single operation. Wyandotte Chemicals Corp., Wyandotte, Mich.

For more data, circle 61 on colored card.

Strips off Baked Synthetic Fast. Finishes literally pop up from the surface when this new non-flammable Prillaman stripper is applied. Has low toxicity. The Prillaman Co., Martinsville, Virginia.

For more data, circle 62 on colored card.

—how to match colors to avoid eye-strain and fatigue

—how to apply the fundamental law of color mixing

—how to indentify water colors and oil paintings

—how to use color to gain desired psychological effects

—the arithmetic of color

—how to stain wood correctly—how to dye material with oil colors

—how color influences our daily lives

—the early uses of color in America

—how to maintain good vision for the study of color

—dictionary of color terms

Can you use handy charts on subjects like these?

1. A master chart for color mixing
2. Safe lime-resistant pigments for the fresco palette
3. Color combinations graded in the order of their visibility and legibility
4. Materials needed for accurate measurement of pigments, paste, vehicles and thinners
5. Chemical mixtures to be avoided
6. Volatile thinners and their comparative order of evaporation.

Price $6.00—Money Back Guarantee

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

Highlights and Sidelights

Catalyzed Coating for Woods is featured by the United Lacquer Mfg. Corp., Linden, N. J. "Syn-A-Lac" is a scientifically formulated synthetic for wood finishing that air dries with speed of lacquer, and has the hardness, flow, high build and solids of enamel. Will not cold check, print, mar or scratch readily, and is resistant to hot water, alcohol, nail polish and other acids and alkalies. Available in flat, satin and gloss in clear and colors.

For more data, circle 63 on colored card.

Better Protection for Metal Surfaces can be obtained by the use of Isophthalic-based paints that last longer under the severest conditions and are resistant to checking, peeling and chipping. Isophthalic-based coatings have better resistance to abrasion and provide improved gloss retention. Can be used in exterior or interior paints, finishes for furniture or tough coatings for machinery. Find out more about Isophthalic-based paints from Oronite Chemical Co., 200 Bush St., San Francisco 20, Calif.

For more data, circle 64 on colored card.

Automatic Spray Machine by Schweitzer can paint up to 6000 small parts per hour. Can be adapted to automatic or semi-automatic loading and unloading. Chain can be used to convey parts to other manufacturing operations, through oven or to shipping. "Chain-On-Edge" automatic spray machines for low cost spraying, and high volume production, are made by Schweitzer Equipment Co., 3704 Ridge Road, Cleveland 9, Ohio.

For more data, circle 65 on colored card.

RP Paint Arrestors can cut costs, increase production in spray booths and reduce maintenance costs. Paint Arrestors are easily replaced in a short time and provide like-new paint overspray removal efficiency with minimum down-time. RP Paint Arrestors are adaptable to almost every operation, and economical in original installation. Research Products Corporation, Madison 10, Wis.

For more data, circle 66 on colored card.

"New Period" Finishes for both wood and metal are better looking, longer lasting and easier to apply. Fillers, stains, lacquers, sealers, lacquer eamels and synthetic enamels are among the New Period finishes available. Working samples at drum price are available. New York Woodfinishers' Supply Co., Inc., 109 Imlay St., Brooklyn, N. Y.

For more data, circle 67 on colored card.

RONA

Synthetic PEARL ESSENCE with the natural look!

PEARLESCENT FINISHES

BAKE OR AIR DRY FOR

Your Product Made of Metal, Plastic, Wood or Glass. Write for sample. Specify application and choice of vehicle.

Natural Pearl Essence Prices on Request

RONA LABORATORIES, INC. EAST 21st and EAST 22nd STS., BAYONNE 2, N. J.
Plants: Maine • New Jersey • Canada

Spray Masks reduce your masking costs. "Kwiky-Dots" come in handy 60-yard rolls, and can be cut to any size from 1/32-in. to 9-in. Raised edge makes them easy to remove for fast application. Die-cut masks, caps and plugs can be made to meet specifications. By-Buk Co., 4314 W. Pico Blvd., Los Angeles 19, Calif.

For more data, circle 68 on colored card.

Hot Spray Cuts Painting Costs, provides heavier film builds, less overspray, faster drying, easier application, fewer rejects and better flowout for high gloss. The DeVilbiss Co., Toledo 1, Ohio, can supply hot spray equipment adaptable to many requirements. Automatic spray machines, ovens and spray booths are engineered to meet your needs.

For more data, circle 69 on colored card.

BoGard P161 Primer, available in red, gray and yellow, is suitable for both air drying and baking, has excellent weather resistance, good adhesion and top coat gloss. This flexible, durable finish has extraordinary film length, and is suitable for use on compressors and other heavy machinery. Body Bros., Inc., Bedford, O.

For more data, circle 70 on colored card.

Ovens are available in a wide range of sizes for production heating to 750° F., for baking organic finishes, preheating plastics, drying chemicals, aging and curing materials, etc., from Despatch Oven Co., 619 S.E. 8th St., Minneapolis 14, Minn. Have rockwool insulation panel construction, special floor insulation, either gas or electric heating systems, automatic temperature control and safety system. Bulletin E gives descriptions and prices.

For more data, circle 71 on colored card.

IDEAL TACK RAGS
FOR A PERFECT FINISH
Bulk or Bagged
IDEAL CHEMICAL COMPANY
1499 Dean Drive, South Euclid 21, Ohio

ELECTRIC "BUNSEN"

Element temperature 800°-1000° C. Operates on 110 volt, 50/60 cycle A.C. Write for price and description.

Gardner Laboratory, Inc.
P. O. Box 5728-I
Bethesda 14, Maryland

Bondmaster Epoxy Cements are removed from metal, wood and glass surfaces on short contact with Electro Cold Stripper. Parts are soaked in the compound or a special brushing remover is available for parts not suited to dipping. Allied Finishing Specialties Co., 2641 W. Grand Ave., Chicago 12, Ill.

For more data, circle 72 on colored card.

Silver Lacquer for plated goods, silver nitrate films, holloware, cellulose acetate butyrate plastic, vaporized metal coatnigs, etc., is offered by G. J. Nikolas & Co., Inc., 2850 Washington Blvd., Bellwood, Ill. 2105 Silver Lacquer is fast-drying, water white, crystal clear, non-discoloring, has excellent adhesion and provides mar-resistant hardness.

For more data, circle 73 on colored card.

Industrial Ovens of All Types

INDUSTRIAL OVENS, INC.
13821 TRISKETT ROAD • CLEVELAND 11, OHIO

"GRIPALLOY"

. . . Attractive satin sheen primer in black and colors . . .
. . . Amazing tight adhesion to 25 different metals as reported by a large electrical manufacturer . . .
. . . Excellent resistance to Salt Spray, Gasoline and Solvents.

TENAX, NEWARK 5, N. J.
Lacquers—Enamels
Synthetics—Varnishes

Drum Plug Wrench; steel or bronze, fits 95% of plugs or bungs in steel drums. Morse Mfg. Co., Inc., 763 W. Manlius St., East Syracuse, N. Y.

For more data, circle 74 on colored card.

Maintenance Painting. Eclipse Air Brush Co., 390 Park Ave., Newark 7, N. J., has released literature describing six complete maintenance units ready to paint, from a touch-up unit and small jobs to a three man unit for maximum production from medium speed guns.

For more data, circle 75 on colored card.

Airless Spray Painting cuts painting costs. A new six-page brochure tells about the airless spray painting process, also answers general questions regarding this new painting method. Applications and related advantages are described. Nordson Corporation, formerly Bede Products Corporation, Amherst, Ohio.

For more data, circle 76 on colored card.

Government Specifications Catalog. Companies handling government contracts or those who need products conforming to government specifications will be interested in the catalog, Adhesives, Sealants, Paints and Coatings listed according to government specifications.

The catalog is published by Magic Chemical Co., Dept. N137, 121 Crescent St., Brockton 2, Mass.

For more data, circle 77 on colored card.

"Rincontrol" Enamels in pastels and dark colors are the new electrostatic wrinkle finishes by Interchemical Corp., Finishes Divn., Newark 5, N. J. These new Interchemical electrostatic enamels can save up to 50% in wrinkle material costs. Are available in a wide choice of textures. They give excellent uniformity and high resistance to abrasion, perspiration and impact.

For more data, circle 78 on colored card.

"Newco" No. 1 Fine Polishing and Rubbing Compound is excellent for rubbing all lacquer, varnish and synthetic surfaces. If you do wheel polishing, Newco No. 1 can save you money and give you a better finish. Newcomb Products Co., 3802 Payne Ave., Cleveland 14, Ohio.

For more data, circle 79 on colored card.

Protective Coating called Mono-Seal has been developed by Mono-Seal Products, 44 Garden St., Everett 49, Mass. It is a balanced chemo-setting synthetic resin coating formulated from a special blend of silicones and epoxies and contains no placticizers or oils and cures both by solvent evaporation and internal polymerization. A technical bulletin is available.

For more data, circle 80 on colored card.

Tests On Acrylic Latex Paints. Rohm & Haas, Washington Square, Philadelphia 5, Pa., has published a 70-page brochure giving detailed summaries and tables covering the findings in an "every-climate" test program on acrylic emulsion paints.

Entitled Progress Report Four, it is the fourth in a series published annually.

For more data, circle 81 on colored card.

Air Pollution Control, Heat Recovery. Oxycat catalytic systems for industrial air pollution control and heat recovery are described in a new 8-page bulletin offered by Industrial Division, Oxy-Catalyst, Inc., Wayne, Pa.

The illustrated literature features Oxycat intsallations in the organic finishing and drying and other fields of application.

For more data, circle 82 on colored card.

Flock, both natural and synthetic, along with research and laboratory facilities, are now available from the Claremont Flock Corp. of Claremont, N. H., formerly known as Claremont Waste Mfg. Co.

For more data, circle 83 on colored card.

Lilly Industrial Products Finishes for Quality Control and customer satisfaction can mean much to you in your finishing department. Let a Lilly representative tell you what Lilly quality control in their specialized field of product formulation, development and production can do for you. Finishes for both wood and metal can be made to suit your particular product and finishing system. Plants and laboratories in Indianapolis, Gardner and High Point.

For more data, circle 84 on colored card.

First-Class Finishes for spraying, brushing, dipping, etc., are scientifically formulated to apply easier, dry at desired speeds and give first-class jobs with less re-do's and fewer headaches. Spruance finishes contribute to more sales, and extra customer satisfaction. The Gilbert Spruance Co., Philadelphia 34, Penna.

For more data, circle 85 on colored card.

Protective and Decorative Finishes for wood and metal products, for producing first-class appearance, and for beauty of product. Our laboratory plant team can help you obtain whatever results you want on your product. Rockford varnish Co., Rockford, Ill.

For more data, circle 86 on colored card.

Vacuum Pump Brochure gives complete data and specifications for both mercury and oil pumps with speeds ranging from 10 to 11,000 c.f.m. Curves of diffusion, booster diffusion and mechanical pumps are shown on a common grid to simplify selection of an appropriate high vacuum pump, and a matching mechnical pump. The 12-page bulletin is published by NRC Equipment Corp., Newton 61, Mass.

For more data, circle 87 on colored card.

Fish-eyes can be prevented, gloss increased and flow-out improved by using "Smoothie", the safe paint additive for refinishing all silicone polished surfaces. Is completely safe for all finishes and colors, lacquers and enamels. One ounce of "Smoothie" conditions 6 to 7 gallons of ready-to-spray paint. Marson Corp., Revere 51, Mass.

For more data, circle 88 on colored card.

Randolph

EXPERIENCE and RESEARCH MEAN

BETTER FINISHES for your products

LACQUERS • ENAMELS
DOPES • THINNERS
CLEAR METAL FINISHES
COLORED LACQUERS
CLEAR S.G. FOR METAL
TEXTURE ENAMELS
SPECIALIZED PRODUCTION FINISHES
AIRCRAFT FINISHES

Depend on us for Prompt Delivery

RANDOLPH PRODUCTS CO.
CARLSTADT, N. J.

AROUND THE CLOCK 365 DAYS

You can depend on OP-AL

$10.50 Without Pilot Light

$13.75 With Pilot Light

APPROVED. CSA TESTING LAB'S.

Electric Knife Heater

OP-AL

THE OP-AL ELECTRIC AND MANUFACTURING COMPANY
3135 MARTINDALE AVE.
INDIANAPOLIS 5, INDIANA

Quartz Infratube Heating Elements are fully illustrated and described in a new 4-page bulletin just issued by the manufacturer, Quartz Products Corp., Plainfield, N. J. Copies free upon request.

For more data, circle 89 on colored card.

Portable Hot Spray Unit enables you to reduce overspray and effect savings in solvent and coating materials. Booklet, "Why Hot Spray" is available to those interested in this process of application. Spee-Flo Co., 720 Polk Ave., Houston, Texas.

For more data, circle 90 on colored card.

Water-Base Strippable Spray Booth Coating No. 15-10 Emulsion is non-toxic, has mild odor and the solution cannot burn. This strippable spray booth coating reduces costly overtime and non-productive downtime. 5-gallon test sample at drum-lot price is available. Better Finishes & Coatings, Inc., 268 Doremus Ave., Newark 5, New Jersey.

For more data, circle 91 on colored card.

Gold Hammer Finish gives illusion of depth. One coat does the trick of covering all imperfections. Hammer also supplied in copper, brass and platinum. Sample available. Duralac Chemical Corp., 84 Lister Ave., Newark 5, N. J.

For more data, circle 92 on colored card.

Paint Strainers for straining lacquers, enamels, paints or varnishes. Made of heavy paper stock with cloth inserts in coarse, medium, fine and extra fine mesh, 6-in. in diameter. Louis M. Gerson Co., Box 175A, Mattapan, Mass.

For more data, circle 93 on colored card.

TOMORROW'S Products Tested TODAY

A service to aid industry in producing longer-lasting and better-looking products. Quick predetermination of durability and permanency by actual exposure test in South Florida. Write us today for full information.

SOUTH FLORIDA TEST SERVICE

EST. 1931

4201 N. W. 7th St. Miami 44, Fla.

Flow Coaters for large or small products, plain and complex are being built by George Koch Sons, Inc., Evansville 4, Ind. Flow coating saves on paint costs, eliminates direct labor on paint application, saves floor space, simplifies maintenance and assures consistent quality. Write for data sheet 1158.

For more data, circle 94 on colored card.

Spray Painting Equipment, air-operated paint pump, custom designed equipment and exhaust equipment, are some of the equipment designed by Eclipse Air Brush Co., 400 Park Ave., Newark 7, N.J., during its fifty years of pioneering many of the firsts in the industry. Extension guns, explosion-proof mixers and low pressure spray equipment are among its products. Descriptive literature available.

For more data, circle 95 on colored card.

Steinemann Flowcoater saves up to 50% in materials and improves the quality of the finish. Applies lacquer at 250-FPM. Applies clear or pigmented coatings to flat or profiled parts of wood, composition board or metal surfaces. Has unlimited film thickness micro-controlled. Finished parts can be dried on racks or automatically transferred to conveyors and drying ovens. Feeds at 130 to 400-fpm. Machines made from 11-in. to 75-in. wide with one or two pouring heads. Specifications sent on request, or demonstration can be seen at High Point, N. C. Production Development Co., Inc., 2404 Hillsboro St., Raleigh, N. C.

For more data, circle 96 on colored card.

Laboratory Heater, the Electric "Bunsen" has element temperature of 800° to 1000° C., and operates on 110 volt, 50/60 cycle A.C. Price and description available from Gardner Laboratory, Inc., P. O. Box 5728-1, Bethesda, Md.

For more data, circle 97 on colored card.

Primer for 25 Metals, "Gripalloy" is available in black and colors; excellent adhesion . . . . and resistance to salt spray and solvents. Tenax Finishing Products Co., 390 Adams St., Newark 5, New Jersey.

For more data, circle 98 on colored card.

Send NOW for this FIT-ALL

DRUM PLUG WRENCH

Instantly loosens, tightens 95% all plugs or bungs in steel drums. Has 16" extra-strong steel tubing handle. Wgt. only 2 lbs.

Order 1 or more today!

THOUSANDS IN USE saving time, labor, accidents!

SATISFACTION GUARANTEED..... **$3.80**

Non-Sparking type.....$5.90

Plus Parcel Post

MORSE MFG. CO., Inc.

763 W. Manlius St., E. Syracuse, N.Y.

"Catalan" Air-dry Finish is a catalyst finish that is tough, mar-resistant and waterproof, in clear and colors. Saves on baking cost and forced air-drying time. Will show no glass rings nor cigarette burns. Laboratory staff technicians can advise you on the use of "Catalan" and other finishing problems. J. Landau & Co., Carlstadt, N. J.

For more data, circle 99 on colored card.

Two New Paasche Catalogs

Paasche Airbrush Company, a division of Cline Electric Manufacturing Company, Chicago, announces the issuance of two new, 2-color, fully illustrated catalogs.

A 24-page book, called Catalog 4, describes the Paasche line of air finishing booths and equipment. Catalog 3, covering the complete line of Paasche automatic spray guns and accessories, includes the newly designed Model 310 and 311 guns.

Catalog requests will be promptly filled by writing to Paasche Airbrush Company, a Division of Cline Electric Manufacturing Company, 1909 West Diversey Parkway, Chicago 14, Illinois.

For more data, circle 100 on colored card.

New Literature on "Flawmaster" Metal Putty

Carl H. Biggs Company, 2255 Barry Avenue, W. Los Angeles 64, California, announces new literature available on "Flawmaster" Metal Putty, an Epoxy-based compound metal putty tested and proved for the past eight years by companies working with metal, such as leading aircraft manufacturers, fabricators of pumps, air and gas equipment, valves, radar, electronics, plumbing equipment, scientific instruments, thermostats and foundries.

"Flawmaster" Metal Putty is used to fill blowholes in both machined and raw castings, to eliminate sand pits, small gas holes, shrinkage cracks, deep nicks and scratches, machining flaws and porous areas in precision metal parts. It is easily handled and cures without shrinkage at room temperature in a few hours. It is impervious to all acids, alkalies, oils, grease, etc., is applicable to nonferrous and ferrous metals and is furnished in aluminum, brass, bronze, zinc, iron and magnesium.

For more data, circle 101 on colored card.

16-Page Silicone Catalog

The 1958 Dow Corning Reference Guide is the largest and most complete silicone catalog ever published. Describes over 150 commercially available Dow Corning silicone products, including many introduced within the past year. Contains detailed charts, tables, graphs and data on properties and performance, along with illustrated examples on how silicones can cut costs, simplify design and add new sales appeal to products in every field of application. Dow Corning Corp., Midland, Michigan.

For more data, circle 102 on colored card.

Serving THE SOUTHEAST

- LACQUERS
- SEALERS
- FILLERS
- TONERS
- GLAZES
- PIGMENTED WIPING STAINS
- NGR STAINS

Complete Technical Service At Your Disposal

SNYDER BROTHERS COMPANY

Manufacturers of Quality INDUSTRIAL LACQUERS

Phones: TUcker 6-2133; 6-2134

P. O. BOX 631 — TOCCOA, GEORGIA

Join MARCH OF DIMES

Mask Spray Painting and Decorating Clinics

A series of technical clinics emphasizing spray decorating techniques and new developments in Automatic Spray Painting Machines will be held in Indianapolis, New York and Hartford, Conn., during February and March. Conforming Matrix Corporation is sponsoring the events, which will be held:

Feb. 6, Hotel Claypool, Indianapolis.
Feb. 27, Hotel Biltmore, New York City.
March 7, Hotel Statler, Hartford, Conn.

Sessions will be at 10 in the morning and 2 in the afternoon. They will include industrial films which show the proper use of spray guns, the care and maintenance of spray equipment, advantages of metal masking techniques, and various types of automatic spray painting machines which have application to many industries, such as toys, refrigeration and automotive.

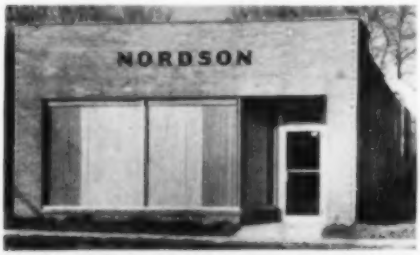
A panel of trained engineers will answer questions and help solve problems in the spray decorating field. This will include Hamilton E. MacArthur, Leo McHue, Charles Van Dusen, David Simmons, Joseph Kertz, A. M. McIntire and Gerald Minnick.

Guest cards will be sent to those addressing Conforming Matrix Corp., 331 Factories Bldg., Toledo 2, Ohio.

Nordson New Eastern Sales and Service Outlet

The Nordson Corporation, formerly Bede Products Corporation, announces the establishment of a new Eastern sales and service outlet at 477 Bergen Boulevard, Ridgefield, New Jersey.

The new facilities are part of Nordson's program to extend and improve service to customers and prospects in the East. Named Nordson Eastern Sales, Incorporated, the new company will function as sales and service center for all Nordson Corporation products including airless spray painting equipment and Bede paint heaters.



Nordson Corporation's new eastern sales and service outlet at 477 Bergen Blvd., Ridgefield, New Jersey.

Besides the direct sale of Nordson products, the new facilities will provide for clinic demonstrations, testing of finishing materials, as well as the servicing and repair of Nordson equipment.

Mr. Joseph A. Sanches, Sales Manager of the new company, will direct its operations, assisted by a thoroughly trained sales and service organization. Personnel working out of this office will have the portable airless spray coating systems available for field demonstrations.

A complete stock of spare parts for products manufactured by the Nordson Corporation will be carried by the new company. Customers in New York, New Jersey, Maryland, Delaware and New England states are urged to contact the new company for service and parts. Persons in these areas interested in learning more about the airless spray coating system and Bede paint heaters may get complete information from this office.

"Besides improving service to our customers, it will now be possible for us to provide complete demonstration service to all new prospective customers in this area," states Mr. Sanches.

Automatic Spray Mask Painting

A new 4-page illustrated bulletin reveals information about Sepanski automatic spray mask painting machines and several accessories. Sepanski & Associates, 902 Clancy Ave., Grand Rapids, Michigan.

For more data, circle 104 on colored card.

Magnetic Carriers; Conveyor

A new illustrated bulletin is offered free by the manufacturer of Magne-Carrier, the magnetic way of carrying parts along on overhead conveyors. According to the producer, the new system completely eliminates clamps, hooks and other positioning and attaching methods and employs magnetic principles for conveying parts through processing operations.

Full information is contained in the new bulletin, available on request from Multifinish Mfg. Co., 26,341 W. 8-Mile Road, Detroit 19, Michigan.

For more data, circle 105 on colored card.

Universal Paint Expands Laboratory

Construction of a new $38,000 development and testing laboratory, has just been announced by S. D. Fields, president of Universal Paint & Varnish Inc., Bedford, Ohio, manufacturers of industrial finishes since 1927. When completed, the addition will more than quadruple the current technical section.

Mr. Fields stated that this modern facility will serve a dual purpose. It will greatly accelerate the development of new coatings, as well as the study of additional applications for existing products. Special attention will be given to broadening the uses for Uni-Mulsion, a revolutionary, non-flammable, water-base baking finish recently introduced by Universal Paint and Varnish.

W. F. Rhoades V.P. of Marketing For United Wallpaper

Mr. Walter F. Rhoades has been made Vice President of Marketing for United Wallpaper, Inc., Chicago manufacturer of coatings and chemicals. Rhoades, 41, was elected to the newly-created position at a recent meeting of the corporation's Board of Directors.

Rhoades, who joined United in 1949, has been General Manager of United's DeSoto Paint & Varnish division, Garland, Texas, since 1954. Prior to that time he was Technical Director at United's Pacific Paint & Varnish division, paint and resin laboratories at Berkeley, Calif. He has a broad background of technical, administrative, and sales experience in the paint, resin, and printing ink fields.

The marketing vice presidency will embrace sales management, market research advertising and sales promotion, and product sales service for both United's paint and wallpaper divisions. The corporation consists of nine plants located across the United States. Products include a wide variety of paints, resins and wallpaper for industrial and domestic applications.

Masking Tape Information

A revised brochure describing technical properties of masking tapes and various industrial applications for them has been made available by Minnesota Mining & Mfg. Co., 900 Bush St., St. Paul 6, Minnesota.

The new 3-page fold-out brochure lists 13 "Scotch" brand masking tapes, including two new types, together with such properties as tensile strength, adhesion and percentage of stretch.

For more data, circle 103 on colored card.

DeVilbiss Moves Personnel

The transfer of D. L. Bohon from his position as regional sales manager for the west coast to the home office sales department of The DeVilbiss Co. in Toledo, is announced by H. M. Kidd, vice president-sales.

He will be replaced by George W. Fulton, who becomes west coast regional sales manager with headquarters at the DeVilbiss factory branch in Los Angeles.

Mr. Bohon's transfer became effective 18 years to the day he joined the company as a salesman Dec. 1, 1939. He was named branch manager in Santa Clara in 1951 and made west coast manager in 1953.

Mr. Fulton joined the company as a salesman in 1946 and has been working for the sales department on the west coast.

CLASSIFIED ADVERTISING

SALESMAN AVAILIABLE.

Industrial Finishing Salesman with excellent following in Ohio and Indiana, or will relocate. Address IF-546, care Industrial Finishing.

WANTED—PAINTING SHOP.

Custom or production painting shop, size not too important as long as potential for expansion exists. Must be located in Eastern half of United States. Address IF-548, care Industrial Finishing.

CLASSIFIED ADVERTISING

The rate on ads appearing in this department is $1.00 per line of 6-pt. light face type, per insertion. Minimum charge, $5.00. Ads set in 8-pt. extra bold face type cost $2.00 per line, per insertion.

There may be certain firms or individuals to whom you do not want your reply sent. Simply address your communication to the box number in the ad and attach a separate list of names. Place both in a separate envelope addressed to Industrial Finishing Magazine, 1142 N. Meridian St., Indianapolis 4, Ind. If the advertiser is on the list you submit we will then destroy your letter. Names of advertisers using box numbers not revealed.

POSITION WANTED.

Experienced wood finisher with knowledge of all finishing phases, furniture repairing and some metal background, desires connection with reliable company. Good character and excellent work record. Address IF-538, care Industrial Finishing.

FINISHING FOREMAN AVAILABLE.

In middle thirties, with artificial graining experience. Good character. Excellent work record. New title immaterial. Address IF-542, care Industrial Finishing.

POSITION WANTED STAIN AND FILLER FORMULATOR.

Experienced formulator of stains, fillers, toners, etc. Good background, good references. Service and sales experience. Address IF-543, care Industrial Finishing.

SALES MANAGER INDUSTRIAL FINISHES.

Prefer smaller aggressive company with growth potential. Address IF-544, care Industrial Finishing.

SALES REPRESENTATIVE

To sell lacquers and enamels direct to manufacturers in Connecticut on established territory. Experience desirable but not necessary. Draw and commission with excellent opportunity for earnings. Address IF-545, care Industrial Finishing.

SALESMEN—INDUSTRIAL FINISHES.

Well established and expanding manufacturer in the Newark area will consider an experienced man with proven record of achievement selling industrial finishes. Our proposition and an exceptional opportunity for security and high earnings allow us to insist on highest qualifications. Answer in detail. Replies confidential. Address IF-529, care Industrial Finishing.

SALESMAN—INDUSTRIAL FINISHES.

If you are a man with 5 years association with industrial manufacturers, we will back you with a well-established laboratory and complete technical service. We are a top-flight, old-line manufacturer. The right man can write his own ticket with us. Territory open. Salary, Commission. Address IF-547, care Industrial Finishing.

INDUSTRIAL FINISHES FORMULATORS.

Inquiries are invited from men with several years' experience in industrial coatings, particularly appliance finishes. Two experienced men are required. One of these will be a man qualified to direct a group. If you are technically qualified and desire to work in a pleasant environment with other top-notch men in a modern laboratory and are interested in good return for your efforts, we want to hear from you. Attractive salaries, excellent working conditions and our expansion program make these opportunities worth while investigating. All correspondence will be strictly confidential. Write C. M. Jackson, JONES-DABNEY COMPANY, Box 328, Louisville 1, Kentucky.

FORMULATOR WANTED.

Experienced formulator for development of industrial enamels. Technical background and ability to administer laboratory functions desirable, but not essential. This is an excellent opportunity to become associated with an aggressive, growing organization. Salary open. Give full qualifications, education and employment record. All replies confidential. Send to H. A. Chloupek, LILLY VARNISH CO., 666 South California St., Indianapolis 7, Ind.

SALES REPRESENTATIVES WANTED.

Leading manufacturer of maintenance and industrial finishes is expanding its sales staff. We expect to place sales representatives in St. Louis, Cleveland, Detroit, Pittsburgh, Philadelphia and Upper New York. Wanted ambitious and aggressive men between 25 and 40. Sales experience preferred but not necessary. Technical background very helpful. Good starting salary, plus expenses, plus sales commission. Write us if you are interested in joining an aggressive and fast expanding organization. Address replies to DETROIT GRAPHITE DIVISION of The Valspar Corp., 7701 W. 47th St., Lyons, Illinois.

INDUSTRIAL FINISHES FORMULATOR

A background in chemistry and experience in formulation qualify you for this position. We are an old, aggressive growing organization specializing in custom-formulated metal coatings, epoxies—vinyls—alkyds—etc., for use on metal furniture, appliances, farm—garden—lawn equipment, can and container linings, and metal decorating and litho finishes. Our well-equipped laboratories contain the most modern equipment; and because our staff is relatively small each man's personal contribution toward our objectives is readily recognized. All replies confidential, so send complete resume, giving age, education, experience and salary desired to—

Clarence Robertson

BRADLEY & VROOMAN COMPANY

2629 South Dearborn Street

Chicago 16, Illinois

SALES MANAGER.

We are seeking a man with executive ability to join an industrial finishes manufacturer—top flight, old-line firm with well-established laboratory and complete technical service. New territory opened daily—we want a strong man capable of supervising, take full charge of planning sales strategy. Salary commensurate. Address IF-549, care Industrial Finishing.

DIRTY THINNERS AND SOLVENTS WANTED.

Send samples and letter giving approximate contents. GET CASH FOR SCRAP. THE JOHANN COMPANY, 13900 Grant St., Dolton, Illinois. Phone Dolton 4850.

FOR SALE.

Ionic Electrostatic Spraying System, 12 guns. Complete with power pack units. Used four (4) months. ⅓ of cost $4200. Call WO-6 3700, Camden, New Jersey, or write ROMAC INDUSTRIES, INC., P. O. Box 301, Camden, N. J.

WE BUY OLD PAINT!!

We rework off-spec enamels, lacquers, primers, resins, pigments. Instead of paying to have them eventually dumped, we will be pleased to make an offer on any size lots.

Please send whatever data, color chips, samples, etc., easily available.

SOLVENT RECLAIMERS, INC.

9045 Vincent, Detroit 11, Mich.

DON'T BUY ANY ONE OF THESE ITEMS

UNTIL YOU GET OUR LOW PRICES! WE CARRY A LARGE STOCK OF REBUILT USED FINISHING EQUIPMENT INCLUDING AUTOMATIC CONVEYORIZED SYSTEMS.

SPRAY BOOTHS	CONVEYORS	PHOSPHATIZING UNITS
MIXING TANKS	FANS	CENTRIFUGAL ENAMELERS
PAINT HEATERS	OVENS	DEGREASERS
PRESSURE TANKS	LIGHTS	PUMPS, MOTORS, ETC.

GENERAL EQUIPMENT & TRADING CO. • 2629 W. GRAND AVE., CHICAGO 12, ILL.

INDEX to ADVERTISERS

Agate Lacquer Mfg. Co., Inc. 93
Allied Finishing Specialties Co. 121
Allied Research Products, Inc. 26-27
Armitage & Co., John L. 1

Barrett Varnish Co. 11
Bartels Co., Gordon 77
Beck Equipment Co. 48
Better Finishes & Coat. Inc., Third Cover
Body Bros., Inc. 79
Bond Chemical Products Co. 105
By-Buk Company 93

Claremont Flock Corp. 85
Classified Advertising 129, 130, 131
Cover, H. S. 119
Crescent Bronze Powder Co. 37

DeBurgh Conveyors, Inc. 82
Despatch Oven Co. 55
DeVilbiss Co., The 50-51
Dolan & Co., V. J. 5
Du Pont de Nemours & Co., E. I. 66-67
Duralac Chemical Corp. 49

Eastman Chemical Products, Inc. 15
Eclipse Air Brush Co. ..... Back Cover
Electro-Mechanics Instruments, Inc. 107

Gardner Laboratory, Inc. 123
General Equipment & Trading Co. 131
Gerson Co., Louis M. 119
Granco, Inc. 95
Grand Rapids Varnish Corp. 2

Hamant Tool Co., Inc. 89

Ideal Chemical Co. 123
Industrial Ovens, Inc. 124
Interchemical Corp. ..... Second Cover

Koch Sons, Inc., George 35

Lanly Co., The 31
Landau & Co,. J. 94
Lawrence-McFadden Co. 13
Lilly Varnish Co. ..... Front Cover
Lindeman Wood Finish Co., Inc. 39

Marson Corporation 87
Morse Mfg. Co., Inc. 126

N. Y. Woodfinishers Supply Co., Inc. 109
Newcomb Products Co. 120
Nikolas & Co., G. J. 69
Nordson Corporation 19

Oakite Products, Inc. 23
Op-Al Electric & Mfg. Co. 125
Oronite Chemical Co. 63

Perfection Paint & Color Co. 7
Potter Paint Co. 45
Prillaman Co., The 120
Production Development Co., Inc. 16
Pyroxylin Products, Inc. 44

Raffi & Swanson, Inc. 80
Randolph Products Co. 125
Ransburg Electro-Coating Corp. 57
Research Products Corp. 81
Rockford Varnish Co. 83
Rona Laboratories, Inc. 123
Roto Finishing Systems 41

Schaefer Varnish Co. 71
Schweitzer Equipment Co. 92
Snyder Bros. Co. 127
South Florida Test Service 126
Spee-Flo Co. 75
Spraying Systems Co. 46
Spruance Co., The Gilbert 33

Tenax Finishing Products Co. 124
Thermospray Co., Inc. 90
Tousey Varnish Co. 59

Union Tool Corp. 73
United Lacquer Mfg. Co. 61

Varnish Products Co. 47

Wyandotte Chemicals Corp. 103

Now... a water-based strippable spraybooth coating!

LIQUID ENVELOPE #15-10 EMULSION

Stuck with costly, primitive, scrape-down booth-cleaning because of union, health or fire regulations? Because soap solutions won't work?

Now you can cut booth-maintenance costs to the bone with Liquid Envelope #15-10 EMULSION. This water-based coating is non-toxic, has a mild odor, and the solution can't burn.

Reduce costly overtime and non-productive down-time. Order a 5-gallon test sample at the drum-lot price today!

#15-10 EMULSION is one of three formulations for use under other-than-ordinary operating conditions. When special properties are *not* required, we recommend . . .

LIQUID ENVELOPE #49-5396-2
H. D. ECONOMY
. . . used world-wide for over 10 years.

BETTER FINISHES & COATINGS, INC.
268 Doremus Ave., Newark 5, N. J.

Gentlemen:

Please send me a 5-gallon test-sample of Liquid Envelope #15-10 EMULSION and bill me at the drum-lot price.

NAME_____

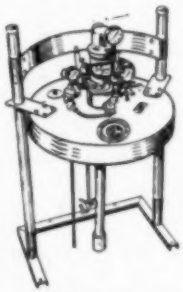
COMPANY_____

ADDRESS_____

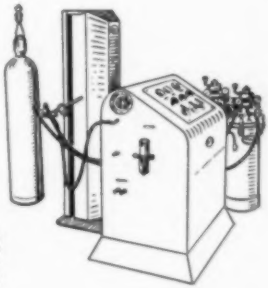
50th Anniversary
of
ECLIPSE AIR BRUSH CO.

Eclipse to Introduce New Equipment, New Models in Many Lines Throughout 1958

For fifty years, Eclipse has been pioneering many of the firsts in the spray painting industry—from Low Pressure spray principle, to extension guns, through portable explosion-proof mixers. Continuing this forward development and engineering, Eclipse will announce many startling firsts throughout 1958—a part of its golden anniversary celebration.



AIR OPERATED PAINT PUMP—Low air consumption, dependable, pumps from original container, air lift, air motored agitator.



CUSTOM DESIGNED EQUIPMENT—This machine automatically paints two sizes of gas cylinders in two colors, uses automatic air operated guns.

EXHAUST EQUIPMENT—Specialized seamless booths—dry or waterwash—for minimum maintenance, adaptable to manual, semi-automatic or completely automatic requirements.

Write for descriptive literature!

Eclipse

ECLIPSE AIR BRUSH CO.,
400 PARK AVE.,
NEWARK 7, N. J.